

CRS Report for Congress

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

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Prepared for Members and
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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 upcoming auction of frequencies within the 700 MHz band. 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 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.

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).

Congress may wish to evaluate whether FCC rule making is an adequate mechanism for creating a structure to govern a shared network that will serve the nation's first responders and meet other public safety needs. Another option that could provide governance of a shared network, a Congressionally-chartered corporate structure, is also discussed in this report. Although the benefits of a federal corporation must be weighed against its disadvantages, one of the benefits is the opportunity to create joint jurisdiction for Congressional oversight.

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

This discussion of governance for a public-private partnership arises from preparations by the FCC to auction 62 MHz¹ of radio frequencies in the 700 MHz band of radio spectrum, commencing January 16, 2008, in conformance with requirements in the Deficit Reduction Act.² The FCC has 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 is 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. Although debates continue concerning public safety spectrum and network needs, these will not be discussed in this report.⁵

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 Order*, July 31, 2007, WT Docket # 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.

⁵ For a discussion of public safety communications needs, see CRS Report RL33838, *Emergency Communications: Policy Options at a Crossroads*, by Linda K. Moore.

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 other tools for managing the auction process.⁶

In addition to setting up rules for the auction process, 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 has 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 has 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 has 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 Block D, 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;⁷ compliance is subject to oversight;⁸ and disputes are to be

⁶ See CRS Report RL31764, *Spectrum Management: Auctions*, by Linda K. Moore.

⁷ As stipulated in the rules covering both of the licensees and the Network Sharing Agreement. See discussion in text of this report.

⁸ 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.⁹

The following overview of the FCC's *Second Report and Order*, and subsequent orders, highlights salient issues for policy makers as regards public safety communications. This report is not an exhaustive study of all provisions that pertain to public safety nor does it cover other parts of the order dealing with the upcoming auction.¹⁰

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.¹¹ 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 Committee¹² 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).¹³

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 NPSTC¹⁴ and others, the FCC has 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.¹⁵ These channels will be administered by states and localities through the existing

⁹ *Ibid.*, paragraph 529. Possible recourse for failure to complete a Network Sharing Agreement are discussed in paragraphs 508 and 509.

¹⁰ See CRS Report RS22218, *Spectrum Use and the Transition to Digital TV*, by Linda K. Moore.

¹¹ 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.

¹² The role and organization of Federal Advisory Committees is addressed in CRS Report RL30260, *Federal Advisory Committees: A Primer*, by Stephanie Smith.

¹³ See [<http://www.npstc.org/index.jsp>]. Viewed August 28, 2007.

¹⁴ 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 August 28, 2007.

¹⁵ *Second Report and Order*, paragraph 322.

regional committee structure. All RPCs with approved band plans are required by the FCC rule making to submit amended band plans.¹⁶ 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.¹⁷ 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.¹⁸ 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 licensee.¹⁹ (Discussed below, in section on 700 MHz rebanding.)

Selection and Establishment of the Public Safety Broadband Licensee

The FCC will select the Public Safety Broadband Licensee. To qualify, the applicant must be a not-for-profit corporation, either pre-existing or formed for the purpose of becoming the licensee. No commercial interests will be permitted, either in the holding of the license or its management. The applicant must be “broadly representative” of public safety entities. As part of its application, the prospective licensee must provide written certification from at least ten geographically diverse state and local government entities attesting to the applicant’s acceptability.²⁰ Representation on the Board of the Directors is to consist of members from named organizations representing public safety²¹ and at-large members selected jointly by

¹⁶ *Ibid.*, paragraph 346.

¹⁷ *Ibid.*, paragraph 322.

¹⁸ *Ibid.*, paragraph 322.

¹⁹ *Ibid.*, paragraph 322.

²⁰ *Ibid.*, paragraph 373.

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 (continued...)

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.

As part of the FCC's oversight, the 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.²⁶ The licensee to be selected must meet criteria for its articles of incorporation and bylaws, as specified in the *Second Report and Order* rules.²⁷ 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.²⁸

The FCC will select the licensee after a public notice has been issued by the Public Safety and Homeland Security Bureau setting out the baseline requirements described in the rule making and explaining the procedures for applying for the public safety license.²⁹ The required notice, released September 10, 2007, sets a deadline of October 10 to submit applications. In addition to meeting the requirements set out in the *Second Report and Order*, applicants must provide a description of qualifications. Examples of relevant qualifications are: experience with public safety radio operations; knowledge of FCC rules; ability to work cooperatively and impartially with all relevant parties; expertise in managing a large-scale, multifaceted initiative; and accounting and auditing capabilities.³⁰

²¹ (...continued)

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 *Second Report and Order*, paragraph 377.

²⁷ *Ibid.*, paragraph 375.

²⁸ *Ibid.*, paragraph 376.

²⁹ *Ibid.*, paragraph 380.

³⁰ FCC, Public Notice, *Public Safety and Homeland Security Bureau Solicits Applications for the 700 MHz Public Safety Broadband License*, September 10, 2007(DA 07-3885) at [http://fjallfoss.fcc.gov/edocs_public/attachmatch/DA-07-3885A1.pdf]. Viewed September 12, 2007.

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 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.

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.

- 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 in January 2008. The FCC has 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 winning 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 has 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 will re-auction licenses if reserve prices are not met during the January 2008 auction process. 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

³⁶ *Ibid.*, paragraph 536.

³⁷ *Ibid.*, paragraph 65.

³⁸ *Ibid.*, paragraph 304. Comments were sought by the Wireless Telecommunications Bureau in a Public Notice dated August 17, 2007 (AU Docket # 01-157). The suggested reserve price for Block D is \$1.33 billion.

³⁹ *Ibid.*, paragraph 305.

⁴⁰ *Ibid.*, paragraph 306.

Public Safety Broadband Licensee.⁴¹ The negotiations for the NSA are to begin on either 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), or the date the FCC grants the public safety license to the selected Public Safety Broadband Licensee, whichever date is later. 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 grants 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

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.

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,

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.

⁴⁷ *Ibid.*, paragraph 518.

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

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.⁵⁰

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.⁵¹ This build out will conform to FCC requirements and to specific requirements negotiated with the public safety licensee in the Network Sharing Agreement.⁵² Modifications to these requirements may be permitted, subject to approval of all parties concerned, including the FCC.⁵³

Build Out Benchmarks. The FCC has established benchmarks for a population-based build out. The first benchmark is four years from February 2009, by which time the network will reach 75% of the national D Block license. By the end of seven years (2016), 95% of the population, nationwide, will have coverage. At the end of ten years (2019), 99.3% of the population is to be covered. Population measurements will be based on currently available U.S. Census data.⁵⁴ 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.⁵⁵

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. 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

⁴⁸ *Ibid.*, paragraph 519.

⁴⁹ *Ibid.*, paragraph 522.

⁵⁰ *Ibid.*, paragraphs 457-459.

⁵¹ *Ibid.*, paragraph 366.

⁵² *Ibid.*, paragraph 438.

⁵³ *Ibid.*, paragraphs 386 and 443.

⁵⁴ *Ibid.*, paragraph 437.

⁵⁵ *Ibid.*, paragraph 438.

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. The NSA is 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.⁵⁹

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.⁶⁰ The FCC will review the NSA and must approve all of its components.⁶¹ Although the FCC allows the two parties leeway in negotiating the agreement, it has set various requirements, such as network coverage requirements noted above, that must be included in the NSA. In particular the FCC has included minimum standards for the network as part of the *Second Report and Order*.⁶²

FCC Network Requirements

To assure that the network meets the needs of public safety, the FCC has 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.

⁵⁶ *Ibid.*, paragraph 440.

⁵⁷ *Ibid.*, paragraph 453.

⁵⁸ *Ibid.*, paragraph 443.

⁵⁹ *Ibid.*, paragraph 521.

⁶⁰ *Ibid.*, paragraph 448.

⁶¹ *Ibid.*, paragraph 364.

⁶² *Ibid.*, paragraph 405.

- 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.⁶³
- Adoption of a common standard for nationwide broadband interoperability that must be used by all public safety users that participate in the network.⁶⁴

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.⁶⁵ 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 opines that the two

⁶³ This and preceding bullet points are covered in *Second Report and Order*, paragraph 405.

⁶⁴ *Ibid.*, paragraph 364.

⁶⁵ *Ibid.*, paragraph 447.

licensees should be left to negotiate “reasonable rates” in good faith, and includes 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.⁶⁶ 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.⁶⁷ 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 invokes 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.⁶⁸

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.⁶⁹

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 received in advance of any action, after both licensee partners have agreed to the modifications.⁷⁰

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.⁷¹ 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

⁶⁶ *Ibid.*, paragraph 450.

⁶⁷ *Ibid.*, paragraph 451.

⁶⁸ *Ibid.*, paragraph 452.

⁶⁹ *Ibid.*, paragraph 449.

⁷⁰ *Ibid.*, paragraph 454.

⁷¹ *Ibid.*, paragraph 414.

interlocking agreements that constitute the public-private partnership.⁷² 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.⁷³ 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.⁷⁴ 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.⁷⁵

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.⁷⁶ The obligation to provide this priority access is one of the service rules attached to the Block D 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.⁷⁷

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.⁷⁸ 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.

⁷² *Ibid.*, paragraph 416.

⁷³ *Ibid.*, paragraph 415.

⁷⁴ *Ibid.*, paragraph 417.

⁷⁵ *Ibid.*, paragraph 418.

⁷⁶ *Ibid.*, paragraph 426.

⁷⁷ *Ibid.*, paragraph 427.

⁷⁸ *Ibid.*, paragraphs 325 - 326.

- Cap at \$10 million the cost of reimbursement for these costs 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 creates 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.⁷⁹

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 National Public Safety Telecommunications Council (NPSTC).⁸⁰ 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 installations projected to be in place by July 2008.⁸¹ The FCC decided that the D Block licensee would be obligated to cover the costs of rebanding⁸² 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.⁸³

⁷⁹ *Ibid.*, paragraph 332.

⁸⁰ Letter from the National Public Safety Telecommunications Council, June 25, 1007, WT Docket No. 96-86.

⁸¹ Letter filed by Motorola, Inc., June 29, 2007, WT Docket No. 96-86.

⁸² *Second Report and Order*, paragraph 336.

⁸³ *Ibid.*, paragraph 341.

Freeze on New Operations. To further control costs for relocation expenses, the FCC prohibited new operations on affected narrowband frequencies after August 30, 2007.⁸⁴

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 prepare a plan for relocation and an agreement on costs for rebanding that must be reviewed and approved by the FCC.⁸⁵ The two licensees are given 30 days to reach agreement on the plan.⁸⁶ 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 Public Safety and Homeland Security Bureau will publish a Public Notice to announce the deadline for the certification program. Failure to meet the deadline for filing information required by the certification program will result in forfeiture of the opportunity to receive reimbursement for technical changes. Only changes made to equipment actually in operation as of August 30, 2007, will qualify for reimbursement.⁸⁷

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 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)

⁸⁴ *Ibid.*, paragraph 339.

⁸⁵ *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.

⁸⁶ *Ibid.*, paragraphs 336 and 504.

⁸⁷ *Ibid.*, paragraphs 336 and 337.

⁸⁸ *Ibid.*, paragraph 338.

⁸⁹ *Ibid.*, paragraph 342.

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 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

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

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-

⁹⁰ *Ibid.*, paragraph 342.

⁹¹ *Ibid.*, paragraph 343.

⁹² *Ibid.*, paragraph 491.

⁹³ *Ibid.*, paragraph 495.

⁹⁴ *Ibid.*, paragraph 492.

⁹⁵ *Ibid.*, paragraph 495.

⁹⁶ *Ibid.*, paragraph 496.

private partnership therefore is placed squarely within the jurisdiction of the committees dealing with telecommunications.⁹⁷

Governance through Regulation

In extending the scope of its authority to write service rules for auction,⁹⁸ 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 managed by 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 to be appointed directly by the FCC. In its 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.

The role of Congress, in accepting this arrangement, will be to provide guidance to the FCC commissioners through the various means available to it. At the member level, this could include writing letters to FCC commissioners in favor of an industry position on a ruling. An example of this practice is found in the campaign of the National Association of Broadcasters to urge members of Congress to write letters to the FCC in support of the broadcast industry's position on access to spectrum known as "white space." At the committee level, oversight actions could include hearings as well as direct communications with the commissioners and their staff.

Governance by a Federal Corporation

Congress has the option to consider chartering a federal government corporation, a quasi-governmental organization, or other legal entity.⁹⁹ 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.

⁹⁷ Senate, Committee on Commerce, Science, and Transportation; House of Representatives, Committee on Energy and Commerce.

⁹⁸ 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)].

⁹⁹ 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.

To meet its capital requirements and cover start-up costs, 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 preparing to use its regulatory authority over spectrum use and auctions to take action in an area (improvement to public safety communications) that Congress has assigned 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 emergency response community.¹⁰⁰ 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.¹⁰¹ 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.

¹⁰⁰ P.L. 109-295, Title VI, Sec. 671(b) 'Title XVIII, 'Sec. 1801 '(a) and '(b).

¹⁰¹ P.L. 109-295, Sec. 671, "Sec. 1801 "(c) "(12).

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.¹⁰² Subsequently, with the recognition by capital markets that a spectrum license is a valuable asset, and with the relaxation of rules regarding ownership, sale, and trading of licenses, radio spectrum licenses have been increasingly treated like other financial holdings.

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.¹⁰³ 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.

When Congress required the FCC to use auctions as the primary means for assigning spectrum licenses, one of the perceived benefits was to capture some of the market value of spectrum for the U.S. Treasury. 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.¹⁰⁴ Just as Congress moved to competitive bidding for licenses in response to changes in the nature of the cell phone industry, it may wish to evaluate whether FCC rule making is an adequate mechanism for creating a structure to govern a shared network that will serve the nation's first responders and meet other public safety needs. A different approach — beyond rule making and regulatory intervention — may be required to assure the creation and operation of a public-private network.

¹⁰² 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.

¹⁰³ 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. Stag Newman, Chief Technology Office, Frontline Wireless, in a presentation at WCA 2007, Washington, DC, June 14, 2007.)

¹⁰⁴ There were nearly 240 million cell phone subscribers in June 2007; statistic updated regularly at [<http://www.ctia.org/>].