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Federal Communications Commission  
Office of the Secretary

**BEFORE THE  
FEDERAL COMMUNICATIONS COMMISSION  
JULY 30, 2008**

**PUBLIC SAFETY INTEROPERABLE COMMUNICATIONS AND THE  
700 MHZ D-BLOCK PROCEEDING**

Good Morning Mr. Chairman and Commissioners. I am Stu Overby, Senior Director, Global Spectrum Strategy of Motorola. I appreciate the opportunity to share with you today Motorola's opinions on public safety interoperability and its recommendations for promoting the development of a public safety grade broadband network through the auction of the 700 MHz D-Block spectrum.

Seven decades of heritage and expertise in addressing the needs of public safety and commercial networks provides Motorola unparalleled insight into the challenges associated with fostering partnerships between the public and private sectors in order to facilitate public safety communications networks. This idea is not new to Motorola. Back in the 1950's, we helped invent the concept of shared land mobile systems called community repeaters to allow enterprises to take advantage of the improved efficiencies that specialized wireless communications systems offer even when they lacked the resources to deploy their own individual networks. We also pioneered cellular systems that have grown to be an essential communication tool for the general public, today serving over 80% of the U.S. population. In addition, Motorola deployed and currently operates a public safety network for the State of Illinois and has done so for several countries in Europe as well.

Our commitment to public safety is second to none. We began installing mobile radios in police cruisers back in the 1930s and ever since have worked side-by-side with public safety

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officials to develop and deploy wireless based tools that save lives and to obtain the spectrum needed to meet public safety's expanding communications needs. Motorola is firmly committed to investing in technologies and applications that expand the extensive portfolio of end-to-end solutions available to local, state and Federal agencies. Unequivocally, this commitment extends to doing all we can to support the success of the Public-Private Partnership.

With the encouragement and support of both Congress and the FCC, the Public Safety community has accomplished much in transitioning the reallocated 700 MHz spectrum to serve the public interest. Even though the spectrum remains largely encumbered with broadcast operations until February 17, 2009, there has been significant deployment of narrowband public safety equipment in areas where television broadcast stations are not precluding early deployment. Some 45 public safety agencies recently provided the Commission with information about existing 700 MHz narrowband systems that require new frequencies to comply with the FCC's revised 700 MHz public safety band plan. This aggressive deployment demonstrates the urgent demand for additional capacity and services this spectrum will provide.

The Commission's adoption of Project 25 (P25) as an interoperability standard in the 700 MHz narrowband spectrum, in addition to this band's proximity to the heavily used 800 MHz public safety band, has enabled progress toward providing interoperability for mission critical voice communications. P25 is a documented standard to which any manufacturer can choose to build equipment. Dual band 700/800 MHz mobile and portable radios are available from a dozen manufacturers. P25 interoperable networks form the backbone of first responder communications and will continue to play a critical role into the foreseeable future. Today, there are P25 statewide systems in place in 15 states and another 14 have indicated their intent to migrate to P25. In addition, a number of local and regional P25 systems are deployed in the U.S., some of which cover a large percentage of the population in their respective states. Some

of these P25 systems already operate in the new 700 MHz band; others currently operate at 800 MHz and will eventually expand into the 700 MHz band.

While there has been significant progress in the deployment of narrowband interoperable networks, much work remains with respect to the deployment of networks capable of providing first responders with access to the data, graphics, and video in a real-time mobile environment that they desperately need to respond as effectively and safely as possible. The primary remaining action is to determine how best to enable the deployment of a system or systems that meet public safety needs for broadband capacity to support these applications. As the Commission contemplates changes to the 700 MHz rules to prepare for the re-auction of the D Block, it should explore all options that will speed the availability of advanced mobile data services to first responders.

Motorola applauds the Commission for its innovation and creativity under legislative constraints to develop a Public/Private Partnership approach to meeting the wireless broadband needs of public safety. In comments previously filed with the Commission, Motorola described the extreme challenge facing the Commission and the public/private partnership of deploying a commercially viable network that is capable of competing on cost of service in a vibrant, competitive environment while offering the unique operational and coverage features required by public safety users.

Consequently, Motorola noted the desirability of having Congress provide additional funds to ensure that the network fully meets the requirements of public safety and can succeed commercially. Without supplemental funding, Motorola is concerned that many compromises in the goal of building the network to public safety requirements must be made to enable the system

to be cost competitive with other commercial networks. Absent such intervention by Congress, however, we will focus our efforts on what can be achieved in the current environment.

In order for the public/private partnership to be a success, there must be a balance between public safety and commercial interests and requirements. As further described below, the Commission can take the following steps to maximize the chance of success for the public private partnership:

- Minimize risks to the commercial partner by lowering costs, spreading risk and permitting operators with experience and resources to participate;
- Ensure that core requirements for public safety are met to the extent possible with the funding available from the D block operator by ensuring access to the network and quality of service;
- Incorporate deployment on a regional and local level pursuant to national interoperability standards and, in coordination with the PSBL;
- Expand the user base as widely as possible, including Federal agencies and by looking for partners such as the Intelligent Transportation System (ITS); and
- Provide the necessary funding and time to relocate existing narrowband systems to the revised bandplan, thereby opening the broadband spectrum for deployment.

Each of these recommendations is discussed in detail below.

***1. Minimize Risk To The Commercial Partner.***

There are a variety of ways that the FCC can minimize the risk for a commercial entity considering whether to participate in the D-block auction:

***Restructure The Auction Reserve Price:*** A reserve price on the D-Block spectrum is useful to help ensure that bidders have the ability and resources available to construct a nationwide network. On the other hand, the winning bidder of the D-Block will require all available resources to overcome the significant financial challenges it will soon face. If the FCC can establish other mechanisms to confirm the financial capabilities of the auction winner, it could balance these concerns by restructuring the D-Block's reserve price.

***Reduce the penalty for failure to reach agreement with the public safety broadband licensee:*** Failure to reach agreement may be due to issues outboard the control of the commercial partner. It should be clear that any penalty will only be applied if it is

determined that the failure to reach agreement is due to the commercial entity negotiating in bad faith.

***Reduce Buildout Requirements And Provide Greater Flexibility For Meeting***

***Requirements:*** The current requirement that the network provide coverage to 99.3% of the population within 10 years creates a high burden that is unlikely to be achieved by a single operator deploying a nationwide network. This requirement would result in buildout that significantly exceeds that achieved by current commercial carriers, and would cover areas where the level of consumer demand likely would not warrant construction on an economic return basis. The buildout requirements should be adjusted to provide additional buildout options and greater assurances that the network will be used where it is built. The rules should provide mechanisms that enable earlier access to mobile data and video in lower density areas that otherwise would be addressed later by the network operator. As further described below, public safety agencies should be encouraged, including financially, to build out networks in areas where the nationwide network will not be constructed in a timeframe that meets the agencies' needs subject to provisions established by the PSST that ensure interoperability with the nationwide commercial broadband network.

***Spread The Risk And Costs By Facilitating Inclusion Of Multiple Partners:*** Allowing public safety entities to build out regional or local networks pursuant to national requirements and in coordination with the PSBL serves to expand the number of partners. In addition, regional licensing of the commercial network could further expand the number of partners and spread the risk among multiple providers. This could add complexity to the process so the PSBL would need to be properly funded and resourced to enable establishment of ground rules and contractual agreements for the network up front and ongoing coordination for operation and maintenance of the system with an expanded group of operators.

***Ensure That Operators With Substantial Resources And Experience In Operating Networks Are Able To Participate.*** The Commission should not exclude or disfavor any qualified potential D-Block licensee(s) by imposing unnecessary eligibility limitations. The significant investment required to develop and deploy a public safety grade broadband network will present great challenges to any D-Block licensee. Unnecessarily excluding current spectrum holders will put the entire effort in jeopardy. Prospective bidders should not be excluded for unrelated considerations that have no bearing on the primary goal of deploying a public safety broadband network.

***2. Ensure That Core Requirements For Public Safety Are Met To The Extent Possible Given Funding Available.***

Regardless of what temporary or permanent compromises must be made in the network design and buildout in an attempt to make the Public/Private Partnership viable financially, there are several core elements that should be included at the outset for any network intended to provide service to public safety. The resulting network will be an improvement over standard

commercial networks, but may still need to have additional buildout and features added when and if sufficient supplemental funding becomes available.

***Quality of Service, Priority and Preemption:*** Public safety must have quality of service (“QoS”) guarantees for bearer services as well as priority and preemption rights over commercial communications for at least a portion of the network capacity. Without these conditions, the ability to access this network will be no different than that of any other commercial network. The requirements for the application of preemption and priority access must be clearly defined in order to provide certainty to both a commercial operator and to public safety. While it would seem intuitively convenient to define preemption scenarios and protocols in terms of the spectrum blocks (*e.g.*, provide public safety eligible users with preemptive access on its own broadband spectrum at all times but only during emergencies on D-Block spectrum), such an arrangement makes little practical sense from a system perspective. The spectrum should be viewed as a whole across both blocks and necessary preemption rights determined and defined in terms of preferred access to a percentage of the aggregated spectrum’s capacity. Motorola believes that at least 50 percent of the capacity available from the combined 10+10 megahertz of the PSBL and the D block winner(s) should be prioritized for public safety use.

***Use of Public Safety Specific Devices and Applications:*** To meet the variety of local needs, Public Safety must have the ability to deploy any specialized device or application, provided that it does not harm the network. Public Safety will have unique and varied requirements for equipment and applications and cannot be limited only to devices available to commercial users. Accordingly, the D-Block licensee(s) should not be allowed to limit the types of devices and services that can be used by public safety on the Public/Private network regardless of whether the operations are using capacity from the public safety broadband block or the D-Block.

***Adequate Funding for the National Public Safety Broadband Licensee:*** Failure to adequately fund the national public safety broadband licensee represents a significant risk to the successful implementation of the public/private partnership. Developing and administering the requirements for a nationwide network is a critical and resource intensive role and it cannot be properly executed absent funding. One possible approach would be to fund the PSST’s operational expenses through a sustained multi-year renewable grant from the Department of Homeland Security. Motorola recommends the Commission and DHS pursue the necessary funding for the PSST to discharge its duties as the PSBL.

### ***3. The Nationwide Network Should Incorporate Deployment on A Regional and Local Level Pursuant To National Interoperability Standards.***

Motorola believes the most effective means of deploying a public safety broadband network to meet the variety of needs across multiple agencies and jurisdictions is to incorporate local and regional buildouts under a national framework. Local entities are most familiar with

their day to day coverage and usage requirements and are best positioned to effectively deploy in their own area pursuant to a national framework that would ensure the goal of nationwide interoperability would be met. In addition, local and state public safety agencies already have numerous communications sites in place, many of which might be used to support broadband infrastructure. Local and regional deployments, however, must be carried out pursuant to a national framework and would operate under the authority of the PSST's nationwide broadband license. As in the current national license model, each regional or local deployment should be made in accordance with the PSST's guidelines and national interoperability requirements. As we previously indicated, Motorola joins several carriers in supporting the establishment of technical standards based on 4G technologies – including Long Term Evolution or LTE. Standards based on 4G technologies would provide competition in the delivery of equipment and related applications and allow the Public/Private Partnership network to benefit through significant manufacturing economies of scale.

***4. Expand the User base to ensure the greatest number of users.***

The Commission should enhance the viability of the public/private nationwide network by working with Federal Agencies to expand the user base and seek opportunities for anchor tenants that can provide some funding supplements for public safety to deploy in coverage areas that are not commercially viable. We recommend that the Commission look at other existing programs that could benefit from use of the 700 MHz broadband network. For example, the Intelligent Transportation System (ITS) initiative could benefit from the coverage and capacity available on the 700 MHz network, and funding for that program could be directed to deploy systems and services on the 700 MHz broadband network. The 700 MHz network could also be a critical tool in making a national crime database and nationwide alerting accessible to local, state, and federal public safety agencies and first responders in the field. Therefore, a portion of

the regular funding associated with those preexisting goals also could be considered for direction toward deployment and use of the 700 MHz nationwide broadband data network.

**5. *Provide The Necessary Funding And Time To Relocate Existing Narrowband Systems To The Revised Bandplan.***

Motorola would like to conclude its recommendations by addressing the issue of funding and logistics for the relocation of the incumbent 700 MHz narrowband systems to accommodate the revised bandplan and the establishment of the public safety broadband systems. As previously discussed, approximately 45 different public safety agencies with significant deployment require relocation. Without adequate funding to do so, these critical communications systems cannot be moved, to the detriment of interoperability.

In order to ensure adequate funding is made available, the Commission must obtain accurate estimates of how much the relocation of existing narrowband systems will cost, as previously recommended. The costs of relocation vary widely. A complete and accurate estimate of relocation costs can only be created by soliciting information directly from individual public safety agencies as relocation costs will vary by equipment and by agency. In order to facilitate this data gathering, the FCC should require public safety agencies seeking reimbursement to provide detailed cost information to the PSBL or the FCC directly within 90 days from the date of a Commission Public Notice that would start this process. Cost information should include the expected types and quantity of equipment that need to be relocated, any related equipment replacement or modification cost, the costs of labor to perform the relocation, a statement-of-work and a schedule to perform relocation, agency specific cost information including consultant and attorney fees, and an estimated contingency amount.

Because the estimates would be developed some months prior to actual availability of funding and execution of relocation, agencies would need to base these estimates on cost quotes

that extend for sufficient time to cover the likely time period when the relocation would be performed. We note that the information regarding number of units contained in the certifications and waiver requests already on file may be reusable in these responses to help lessen the additional work agencies must perform to develop these cost estimates. The estimates can then be accumulated for all agencies and an appropriate cap determined, including a reasonable amount for unaccounted inventory and other contingencies, prior to the start of a second D-Block auction.

Once the D-Block is re-auctioned and appropriate Network Sharing Agreements are executed, the D-Block licensee(s) should be required to deposit the reimbursement funds into a trust fund administered by the PSBL. Each individual public safety agency would execute relocation contracts with the respective parties involved in their relocation efforts including provisions to have payments made to the respective contracted parties from the trust fund administered by the PSBL. The PSBL should be afforded discretion to assess the soundness of the cost estimates and negotiate terms directly with equipment and technology vendors. The PSBL would issue payment to the contracting parties upon submittal of the authorizing documentation (milestone acceptance certifications and milestone payment invoices) akin to the process for payment of a letter of credit. A provision also must be established to allow for the payment of change orders to account for contingency work.

Further, Motorola strongly recommends that the Commission extend the August 30, 2007 cut off date for narrowband deployments because of the hardship created for public safety agencies in the midst of network deployments. The Commission should continue to assure public safety that the build out of existing implementations will not be disrupted as the continuity of critical communications is of the utmost importance. Public safety entities are legitimately concerned about their ongoing deployment efforts as the Commission has not, to date, approved

any waivers filed for continued narrowband build out. While new deployments should only be licensed for the new band plan frequencies, current deployments should be allowed to continue pending the completion of their eventual relocation to avoid disrupting ongoing public safety operations.

Finally, given the delay in the availability of funding for the narrowband relocations caused by the failure of the D-Block auction, Motorola recommends extending the February 17, 2009 deadline originally set for completion of all narrowband relocations as that date is no longer realistic. Instead, we believe that a new deadline should be established based upon relocation schedules submitted by the public safety agencies as part of their relocation cost estimates and the timing for actual availability of funding to support the relocations. Sufficient time must also be included for the public safety agencies and the PSBL to establish the necessary contracts required to execute each agency's relocation (which is in addition to the time required to perform the actual relocation work).

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Again, thank you for this opportunity to present Motorola's views on this important subject. Motorola appreciates the Commission's leadership on spectrum issues, and the attention that the Commission has devoted to providing first responders with the communications tools necessary to perform their homeland security functions day to day and in times of emergency.