

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

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

**REPLY COMMENTS OF MOTOROLA, INC.**

Motorola Inc. (“Motorola”) hereby submits these reply comments in response to the Third Further Notice of Proposed Rulemaking in the above-captioned proceeding.<sup>1</sup> While supportive of the Commission’s overall intent, many of the comments filed in response to the Third Further Notice share Motorola’s concerns over the effectiveness of the proposed rules, especially if there is no supplementary government funding to support the construction of a public safety grade network. In these reply comments, Motorola joins other commenters in urging the Commission to ensure that: (1) narrowband users’ relocation costs be fully reimbursed by the commercial licensee(s); (2) public service entities be allowed to choose their own services, applications, and equipment for the shared network; (3) a single advanced technology platform will be deployed in the shared network from its inception; and (4) the PSBL has sufficient funding and control over its internal governance.

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<sup>1</sup> See *Service Rules for the 698-746, 747-762 and 777-792 MHz Bands; Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band*, Third Further Notice of Proposed Rulemaking, WT Docket No. 06-150, PS Docket No. 06-229, FCC 08-230 (Sept. 25, 2008) (“Third Further Notice”).

## **I. Narrowband Relocation Costs Should Be Compensated in Full.**

The Commission proposed in the Third Further Notice to raise the cap on reimbursements for narrowband relocation costs from \$10 million to \$27 million based on previous comments stating that a \$10 million ceiling would likely prove inadequate.<sup>2</sup> Now, the record reveals widespread agreement that narrowband relocation costs should be fully compensated and that the proposed \$27 million reimbursement cap is still too low.<sup>3</sup> Commenters cite factors that the Commission does not take into account in setting its proposed cap, but are essential to an accurate estimate of relocation costs. Furthermore, commenters generally acknowledge that the Commission lacks sufficient information at this time to determine an accurate picture of just how much the relocation will cost. Motorola therefore joins other commenters in urging the Commission to gather detailed relocation plans and cost estimates before the auction commences.<sup>4</sup>

Commenters emphasize the inadequacy of the proposed cap on relocation costs and urge the Commission to consider all aspects of relocation that will require reimbursement. For instance, the Public Safety Spectrum Trust Corporation (PSST) estimates that relocation will cost

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<sup>2</sup> See Third Further Notice, ¶¶ 443-445,

<sup>3</sup> See Comments of Motorola, Inc. at 19 (“Motorola Comments”); Comments of the Association of Public-Safety Communications Officials-International (APCO) at 25-26 (“APCO Comments”); Comments of the Commonwealth of Virginia at 9-10 (“Virginia Comments”); Joint Comments of the American Association of State Highway and Transportation Officials, the Congressional Fire Services Institutes, the Forestry Conservation Communications Association, the International Association of Fire Chiefs and the International Municipal Signal Association at 38 (“Joint Public Safety Comments”); Comments of the National Public Safety Telecommunications Council at 33-34 (“NPSTC Comments”); Comments of the Public Safety Spectrum Trust Corporation at 40-42 (“PSST Comments”); Comments of Pierce Transit at 5-7 (“Pierce Comments”); Comments of the Telecommunications Industry Association at 9 (“TIA Comments”).

<sup>4</sup> See Motorola Comments at 19-22; TIA Comments at 10-11; NPSTC Comments at 34; PSST Comments at 41; Pierce Comments at 6-7.

close to \$74 million.<sup>5</sup> This estimate accounts for the necessary replacement of vehicular repeaters, which, according to the Association of Public-Safety Communications Officials-International (APCO), “constitute a substantial percentage of the 700 MHz narrowband radios currently in use.”<sup>6</sup> Thus, any estimate of relocation costs that fails to account for this and similar equipment and services required to implement the relocation would significantly understate the actual costs narrowband users would face. The National Public Safety Telecommunications Council (NPSTC) expresses the view of probably all public safety and narrowband users that “[a]ny ultimate amount should encompass all costs related to the relocation - equipment, transactional and administrative.”<sup>7</sup> To accurately assess the ultimate amount, however, the Commission will need more information than it now has.

Other commenters maintain that the Commission lacks sufficient information in the record to make an accurate estimate of relocation costs.<sup>8</sup> Pierce Transit explains that “the generalized cost assumptions underlying the cap are highly uncertain and variable, and the cost estimates and actual costs of particular organizations will differ significantly based on the deployment situation of each organization, the type of system being deployed, and numerous other variables.”<sup>9</sup> Given these variables, the Telecommunications Industry Association (TIA) notes that it is “premature to establish accurate cost estimates.”<sup>10</sup> TIA and other commenters echo Motorola’s recommendation

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<sup>5</sup> See PSST Comments at 41. Several other commenters cite to PSST’s estimate with approval. See Joint Public Safety Comments at 38; NPSTC Comments at 34.

<sup>6</sup> APCO Comments at 26.

<sup>7</sup> NPSTC Comments at 34; *see also* Virginia Comments at 10 (“If public safety entities are being required to vacate spectrum to make way for commercial users, then the commercial users should pay the full relocation costs of the public safety entities, who generally lack budget flexibility or surplus funding to allow them to absorb these costs.”).

<sup>8</sup> *See, e.g.*, Pierce Comments at 5-7; TIA Comments at 10-11.

<sup>9</sup> Pierce Comments at 5.

<sup>10</sup> TIA Comments at 10.

that the Commission solicit relocation cost estimates directly from narrowband users.<sup>11</sup> Only then can the Commission provide potential bidders with a more accurate picture of actual relocation costs and ensure that narrowband users are fully compensated.

## **II. Public Safety Entities Must Be Free To Choose Their Own Services, Applications, and Equipment**

Commenters generally agree that public safety entities should control the selection and use of services, applications, and equipment to best meet their needs for the shared broadband network.<sup>12</sup> Several commenters specifically stress that the public safety agencies must have control over applications. The City and County of San Francisco and the City of Oakland, for example, explain that such control is necessary “to maximize network flexibility and enable quick response to emergency situations.”<sup>13</sup> They point out that allowing a national entity to dictate all appropriate uses of the network would be counterproductive.<sup>14</sup> The King County Regional Communications Board and the City of Seattle agree, stating that as innovative new applications “emerge and become critical to public safety, . . . [l]ocal jurisdictions will need to specify which applications need to be used and at what priority.”<sup>15</sup>

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<sup>11</sup> See Motorola Comments at 19-21; TIA Comments at 10-11; NPSTC Comments at 34; PSST Comments at 41; Pierce Comments at 6-7.

<sup>12</sup> See Opening Comments of the City and County of San Francisco, California and the City of Oakland, California at 11 (“S.F. & Oakland Comments”); Comments of the King County Regional Communications Board and the City of Seattle at 3-4 (“KC-RCB & Seattle Comments”); Comments of the National Association of Telecommunications Officers and Advisors, The National Association of Counties, and the National League of Cities at 10-11 (“NATOA et al. Comments”); Comments of Pinellas County, Florida at 2 (“Pinellas County Comments”); Response of Regional Planning Committee Twenty at 21 (“Region 20 Comments”); TIA Comments at 15-18.

<sup>13</sup> S.F. & Oakland Comments at 11.

<sup>14</sup> See *id.*

<sup>15</sup> KC-RCB & Seattle Comments at 3-4.

Other commenters express particular concern that the D Block licensee(s) not be permitted to inhibit in any manner public safety access to the shared network. The National Association of Telecommunications Officers and Advisors (NATOA), along with the National Association of Counties and the National League of Cities, warn of the potential for “perverse industry incentives to keep public safety off the network through the use of ‘reasonable network management practices.’”<sup>16</sup> They urge the Commission not to “unintentionally open the door to management practices by the D-Block licensee that would result in less development of competitive products for the network” and perhaps even deter “public safety entities from adopting the new network.”<sup>17</sup>

While Motorola recognizes the need for a network operator to manage the network resource, it must be done in a way that does not undermine the public safety mission. Undoubtedly, the D block licensee(s) will have an important part in defining the requirements necessary to prevent devices from causing harm to the network but the Commission must ensure that public safety users are not overly constrained in their use of the network to meet public safety needs. For example, agencies in areas prone to wildfires likely will have different operational requirements than those of agencies in most urban areas. Correspondingly, specific application software and the requirements for subscriber units will also be unique. Accordingly, Motorola re-emphasizes its previous statement that “the carrier network should assume a primarily passive role for public safety traffic and allow public safety entities to determine the services and applications that best suit their operational requirements.”<sup>18</sup>

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<sup>16</sup> NATOA et al. Comments at 11.

<sup>17</sup> *Id.*

<sup>18</sup> Motorola Comments at 15.

Finally, a number of commenters recommend allowing public safety entities to choose their own applications and devices, without requiring specific approval or endorsement by the PSBL of each device or application that is brought to market. TIA and others propose that the PSBL be responsible for establishing high-level<sup>19</sup> specifications to ensure interoperability without approving specific applications and equipment.<sup>20</sup> This approach would help avoid an approval-process “bottleneck” and allow public safety agencies to keep up with the “technological pace of device and application development.”<sup>21</sup> Motorola agrees with these comments and urges the Commission to modify the proposed rules accordingly.

### **III. The Commission Correctly Limits Technology Options to LTE or WiMAX for Regional Licenses**

The record supports the Commission’s proposal to require regional licensees to deploy LTE or WiMAX in order to promote interoperability and avoid migration from 3G technologies. Motorola and other commenters refute claims<sup>22</sup> that other technologies could be deployed without getting in the way of the shared broadband network and then easily migrated later to the common technology. Such an approach would result in confusion, delay, and wasted resources.

By requiring a single technology platform from the start, the Commission would avoid migrations that are costly, time consuming, and ultimately unnecessary.<sup>23</sup> To maintain

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<sup>19</sup> These specifications need to outline the basic user requirements and not necessarily repeat detailed performance specifications such as OOBE that are defined by the applicable standards bodies. This task is not meant to be overly burdensome on the PSBL.

<sup>20</sup> See TIA Comments at 16; Motorola Comments at 11-14; Tyco Electronics Comments at 7; NATOA et al. Comments at 10.

<sup>21</sup> NATOA et al. Comments at 10; *see also* TIA Comments at 16; Tyco Electronics Comments at 7.

<sup>22</sup> See, e.g., Comments of Alcatel-Lucent at 6-8.

<sup>23</sup> Trial broadband deployments in Washington, DC and New York City of course may very well need to migrate to the interoperable broadband technology chosen, and should be provided adequate time to do so. However, this requirement still does not justify the need to start regular

interoperability and coverage during a period of migration, the D block licensee(s) likely would need to maintain dual facilities, i.e., base stations for both the original and the new technology. Migration also would extend an already protracted implementation process, which includes a mid-year 2009 D block auction, potentially several months for after-auction steps to finalize and confirm auction winners, six months to develop a network sharing arrangement, and some time for the Commission to approve the NSA. Even without migration, no shared network deployment likely will occur prior to 2010.<sup>24</sup>

In addition, establishing a single 4G technology likely will better promote early buildout by public safety agencies. Motorola disputes Alcatel-Lucent's contention that agencies would benefit from being able to build out early with their own choice of technology and "easily migrate" into the shared technology later.<sup>25</sup> Rather, as Ericsson explains, selecting a single technology platform will actually facilitate early buildout because it will assure public safety agencies wishing to deploy networks ahead of the D Block schedule that their networks will be compatible.<sup>26</sup> Motorola agrees that establishing a single technology platform will benefit public safety entities that build out early by ensuring interoperability, thus protecting their investment.

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broadband deployments throughout the country under one broadband technology with a planned migration to another broadband technology from the outset.

<sup>24</sup> LTE technology is expected to be available for trials in 2009 with commercial deployment in 2010. Notably, Motorola demonstrated live mobile broadband video transmissions over a prototype LTE 700 MHz system this week at the International Association of Chiefs of Police meeting in San Diego.

<sup>25</sup> See Comments of Alcatel-Lucent at 7-9.

<sup>26</sup> Comments of Ericsson Inc. at 7; *see also* Comments of the New York City Police Department at 7 (advocating allowing "major cities or other jurisdictions to deploy private broadband networks on the public safety spectrum provided that they adopt the same technology as other regional public safety broadband networks).

Several commenters point out that allowing regional licensees to choose their own technology platform would create an unacceptable risk of interoperability problems.<sup>27</sup> Ericsson explains that it would “potentially lead to multiple, incompatible, isolated public safety networks with unserved areas in between.”<sup>28</sup> The WiMAX Forum adds that, in the case of public safety networks, “safety of life and property cannot be frustrated by any degree of speculative or gradual attainment of interoperability”; thus, “certainty in air-interface interoperability is paramount from day one.”<sup>29</sup> Ericsson concludes that “[s]imply put, a lack of uniformity increases cost, delays deployment, and creates islands of incompatibility.” These comments illustrate that this approach would ultimately frustrate the Commission’s goal of establishing a nationwide interoperable wireless broadband network for the benefit of public safety.

Motorola reiterates its view that choosing a technology at the beginning of its life cycle, such as LTE, will ensure that public safety users have access to the best available technology throughout the proposed fifteen year buildout period.<sup>30</sup> United States Cellular agrees, stating that adopting LTE or WiMAX would produce “strong competition and economies of scale,” while under the alternative “public safety users could face higher equipment costs and fewer choices of user equipment devices for years to come.”<sup>31</sup>

#### **IV. PSST Should Determine Its Own Budget and Governance**

Motorola shares other commenters’ concern that the PSST be sufficiently funded and have control over its own governance. Unfortunately, the record indicates that the proposed \$5

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<sup>27</sup> See, e.g., Ericsson Comments at 8-9; Comments of the WiMAX Forum at 4-5.

<sup>28</sup> Ericsson Comments at 8.

<sup>29</sup> WiMAX Forum Comments at 4.

<sup>30</sup> See Motorola Comments at 6.

<sup>31</sup> Comments of United States Cellular Corporation at 5 (“USCC Comments”); see also Comments of Telecommunity at 12-13 (urging a rebuttable presumption in favor of LTE)

million budget for the PSST will not be adequate for the PSST to meet its obligations to public safety.<sup>32</sup> As the Joint Public Safety Commenters put it, the “Commission’s proposals are unrealistic” in this regard.<sup>33</sup> They state that start-up costs in particular, along with other operating costs in its early years, likely will increase the PSST’s budget to twice the proposed cap. The PSST itself recommends that the cap be increased to \$10 million per year, “an amount the PSST believes is more reflective of its ongoing needs.”<sup>34</sup> Motorola agrees with United States Cellular Corporation’s comments that such a shortfall in funding would severely hinder “negotiating and performing under the NSA, establishing and operating systems for authorizing priority access, and other aspects of supporting public safety users in the shared network.”<sup>35</sup>

To prevent any excessive funding shortfalls or surpluses, Motorola joins other commenters in urging the Commission to provide the PSST with greater flexibility to determine its own budget.<sup>36</sup> APCO proposes a simple but effective approach, in which the Commission would “require the PSBL to submit a detailed budget . . . , and if that budget provides sufficient justification for a higher annual payment, that should be approved.”<sup>37</sup> Otherwise, the Commission is placing “an arbitrary cap” on the funding before “the facts of the D Block strategy are known.”<sup>38</sup> By so doing, the Commission is risking “[a]n underfunded PSBL [which]

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<sup>32</sup> See Joint Public Safety Comments at 29-30; PSST Comments at 30-33; USCC Comments at 36.

<sup>33</sup> Joint Public Safety Comments at 29.

<sup>34</sup> PSST Comments at 31.

<sup>35</sup> USCC Comments at 36.

<sup>36</sup> See APCO Comments at 22; Joint Public Safety Comments at 31; NPSTC Comments at 19; PSST Comments at 30-33; Region 20 Comments at 22-23;

<sup>37</sup> APCO Comments at 22.

<sup>38</sup> Region 20 Comments at 22.

will accrue significant detriment to public safety interests and disrupt considerably its ability to promote access by all public safety users.”<sup>39</sup>

Finally, several commenters urge the Commission to extend flexibility to the PSST to determine how it governs itself.<sup>40</sup> These commenters express concern that the proposed changes to the PSST’s governance could hamper its ability to represent public safety interests. Regional Planning Committee Twenty and others emphasize that “the Trust’s Board must have broad latitude to represent public safety and first responders.”<sup>41</sup> Any other approach detracts from this primary purpose.

## V. Conclusion

Motorola appreciates the Commission’s efforts to establish a nationwide interoperable broadband network that will fulfill public safety needs. Although this goal may not be ultimately achievable without supplemental congressional funding, we believe the foregoing recommendations will help the Commission modify its proposal to better serve public safety.

Respectfully Submitted,

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<sup>39</sup> NPSTC Comments at 19.

<sup>40</sup> See Joint Public Safety Comments at 32-37; PSST Comments at 34-40;

<sup>41</sup> Region 20 Comments at 22-23; see also Joint Public Safety Comments at 32; PSST Comments at 34.