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September 20, 2007

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VIA ECFS

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: **Ex Parte Presentation** – PS Docket No. 07-114, CC Docket No. 94-102, WC Docket No. 05-196

Dear Ms. Dortch:

Pursuant to Section 1.1206(b)(2) of the Commission's rules, this letter is to notify you that on September 19, 2007, Mary E. Brooner, Bruce Bernhardt, and Jim Krammen of Motorola, Inc. and Thomas S. Dombrowsky, Engineering Consultant, and Catherine M. Hilke of Wiley Rein LLP had meetings with the following individuals regarding the above-captioned proceedings:

(1) Julius Knapp, Ron Repasi, Ira Keltz, Ron Chase, and Salomon Satche of the Office of Engineering and Technology, and Julia Tu of the Public Safety and Homeland Security Bureau; and

(2) Derek Poarch, Erika Olsen, and Tim Peterson of the Public Safety and Homeland Security Bureau.

During these meetings, the parties discussed the attached presentation and issues included in Motorola's filings in the above-captioned proceedings. If you have any questions or require additional information, please contact Mary Brooner at 202.371.6899.

Sincerely,

/s/ *Catherine M. Hilke*

Catherine M. Hilke

cc: Ron Chase, Ira Keltz, Julius Knapp, Erika Olsen, Tim Peterson, Derek Poarch, Ron Repasi, Salomon Satche, Julia Tu,

Attachment

Next Generation E911 Location Issues
Motorola, Inc.

PS Docket No. 07-114
CC Docket No. 94-102
WC Docket No. 05-196

Motorola Has Technological Concerns About FCC Proposals For Improving E911 Location Accuracy

Determination of elevation location is technically challenging where needed most, such as in-building

Hybrid location technologies will not provide accuracy at PSAP-level of geography

Beacon approach for in-building solutions needs significant study to even know if it is a feasible, practical solution

GPS Technology Is Only Solution Currently That Contemplates Elevation Location

- **But . . . satellite geometry limits use in-building**
  - **Need four satellites with geometrical separation/distribution**
- **No other known solutions ready for commercial development and implementation in satellite-challenged environments**
  - **Known solutions each have issues and limited testing**
- **Motorola actively engaged for years in evaluating in-building location systems for First Responders**
  - **Typical solutions involve dropping beacons in building or using multiple external reference signals from different directions that penetrate building**

Hybrid Approach Will Not Provide PSAP-level Accuracy

- Motorola defines a hybrid approach as network triangulation combined with GPS
  - While the two approaches may complement each other to some extent . . .
  - Hybrid has not been shown to meet FCC accuracy requirements in all environments
  - Area of focus for stakeholder forum – involve other Federally recognized authorities such as NIST
- Hybrid is most challenging in-building and won't improve in-building accuracies
  - Same holds true for satellite-challenged tunnels, urban canyons, heavily forested areas
- A hybrid technology approach provides an opportunity for improving in-building location
  - but at a potential degradation in location accuracy from a full GPS position determination
- There are significant operational issues should in-building coverage be addressed with additional cell sites
  - Deleterious impact on Capacity and Quality of Service
- In-building distributed antenna systems do not help with location
  - Range is limited and talking to a single cell

Hybrid Approach Will Not Provide PSAP-level Accuracy (cont.)

- Hybrid requires another nationwide change out of handsets
  - All handsets will need new software and/or hardware
    - Today's AGPS handsets need new code for network messaging
    - Networks need new code to handle messaging

- ~219 million devices in market today* to be changed out in 5 years
  - * mid-2007 Motorola estimates based on 74% penetration of 295m pops
    - Phase II reference: 86 million handsets over 5 years w/ enormous effort

Next Generation Solutions Not Developed Or Tested

- **No industry study of solutions**
  - Area of focus for stakeholder forum
- **Proposed solutions have not been fully developed or tested in all environments were E911 calls can be made**
- **Not solely a question of funding**
  - Industry does not know where to spend money to achieve desired results
  - Do not waste time and scarce engineering resources on solutions that do not substantially improve the performance
- **Follow fundamental best practices**
  - Define the acceptance test and then design the solution
  - Need to define the solution and then have time for standards, development, testing and deployment

Need Joint Industry Technology Forum

Need to determine:

- **What solutions are available or could be developed?**
- **What is feasible and reasonable?**
- **How will it perform?**
- **What does it take to make it work?**
- **When can it be deployed and ready?**