

SOUTHWEST RESEARCH INSTITUTE

6220 CULEBRA ROAD • POST OFFICE DRAWER 28510 • SAN ANTONIO, TEXAS, USA 78228-0510 • (210) 684-5111 • TELEX 244846

Signal Exploitation and Geolocation Division

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June 17, 1999

Reference: CC Docket No. 94-102

Office of the Secretary
Federal Communications Commission
445 12th Street, TW-A325, S.W.
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Ladies and Gentlemen:

We became aware of your Public Notice for targeted comment on wireless E911 Phase II automation location identification (ALI) requirements on June 16, and are therefore offering a brief response in this letter but would welcome the opportunity to provide a more detailed description at your convenience.

Southwest Research Institute (SwRI) is a technology neutral organization in wireless E911 Phase II ALI requirements. We are a not-for-profit organization, and are not involved in the manufacture of commercial products. We are an applied research organization that serves both commercial and government clients. The Signal Exploitation & Geolocation Division has been involved in radio direction finding and geolocation of radio transmitters for the past forty-five years. We have also developed GPS based location and tracking systems for DoD applications. An area of particular expertise in our organization is the validation and verification of the performance of radiolocation systems.

We have been involved in numerous discussions with carriers, PSAPs and vendors regarding E911 ALI requirements since the issuance of the E911 First Report and Order and the E911 Reconsideration Order. It is our opinion that the E911 Phase II ALI specification can be stated in terms of a verifiable CEP specification that will be acceptable to the many principals involved, including TruePosition. Specifically, the expected location accuracy at each geographical point in the wireless coverage area can be described using the statistical variance associated with predicted error budgets. The CEP can be defined in terms of, say a 90%, probability contour. This would allay the concerns of Ericsson and others about the occurrence of outliers. The predicted accuracy in the area of coverage could be verified with carefully planned measurements through repeated trials, all of which could be done within a realistic budget. Overall location accuracy performance can be assessed by integrating over the area of coverage to determine whether or not 125 meter accuracy is realized throughout 67% of the coverage region. These concepts are based on techniques routinely used by SwRI to verify performance of geolocation systems deployed throughout the world.

If we can provide additional information, please contact the undersigned at (210) 522-2765, fax (210) 522-2709, or email rjohnson@swri.org.

Yours truly,

Richard L. Johnson, Ph.D. P.E.

Institute Scientist



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