

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

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In the Matter of)
)
Revision of the Commission's Rules)
to Ensure Compatibility with Enhanced)
911 Emergency Calling Systems)

CC Docket 94-102

FURTHER COMMENTS OF NENA, APCO AND NASNA
ON AT&T WIRELESS REQUEST FOR WAIVER

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SUMMARY

AT&T has not explained why Exhibits A and B of its Supplemental Response must be withheld entirely from public disclosure. The descriptions of the documents make them germane to discussion of the performance and benefits of the proposed MNLS location solution. If the exhibits are factored into the waiver decision – and by implication they will be – waiver cannot be granted without their release.

However, on the public record to date, AT&T has not made the case for a waiver to permit the indefinite use of MNLS. Manifestly, there are other location solutions which have performed better in AT&T's own field trials. Pending release are documents from another waiver request which should identify a competitive vendor not admitted to the AT&T tests. Whichever network-based interim location solution ultimately is selected, it should operate for the briefest possible time consistent with the feasible delivery of E-OTD handsets and accompanying network modifications. AT&T's open-ended transition is not consistent with the reasoning in the VoiceStream waiver and should not be accepted.

Under the Commission's current Phase II waiver standards, waiver requests should be accompanied by dated performance benchmarks and distinct deadlines for full compliance. AT&T has yet to provide these for either GSM-EOTD or TDMA-MNLS. The carrier asks for transitions on its own schedule. Given the weakness of MNLS for legacy TDMA and AMPS users, such an open-ended process is not acceptable.

Even if a firm schedule is imposed on the introduction of E-OTD handsets and concomitant network modifications, it must be backed up by the pledges of manufacturers and other vendors that the schedule can be met.

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The National Emergency Number Association (“NENA”), the Association of Public-Safety Communications Officials-International, Inc. (“APCO”) and the National Association of State Nine One One Administrators (“NASNA”), hereafter “Public Safety Organizations,” submit these additional comments on the Request for Waiver (“Request”) filed April 4, 2001 by AT&T Wireless Services (“AT&T”). On May 7, 2001, the Public Safety Organizations objected to the Request because, among other points:

- Reports of field trials of network alternatives to AT&T’s proposed Mobile-Assisted Network Location System (“MNLS”) had been kept secret;
- MNLS did not come close to the location accuracy requirements in the FCC rules;
- There was no timeline for completing conversion from the existing or near-term TDMA/MNLS system to the new GSM/E-OTD system; and thus,
- No “clear path to full compliance” as required by the FCC’s VoiceStream waiver standard.¹

AT&T responded on May 21st by noting that its requests for confidentiality had been partly denied by the FCC and that some of the trial data would be released. (Reply Comments, 1,

¹ Fourth Memorandum Opinion and Order, CC Docket 94-102, 00-326, released September 8, 2000, at ¶¶44-45.

note 3) AT&T also claimed that MNLS accuracy was “comparable” to that of other network-based solutions and could be realized more quickly by rapid installation. (Reply Comments, 3)

Responding to additional questions posed by the FCC in the order partly denying confidentiality, AT&T stated:

- Data on MNLS trials in Richmond and Bellevue, Washington and Denver, Colorado would be submitted later (Partial Response, May 30, 2001, 2);
- The inability of MNLS to operate on the AMPS (analog) air interface would not matter because more than 90% of its customers were on digital service (Partial Response, 3); and
- “AT&T does not currently plan to discontinue service over its TDMA network on a date certain as a result of its transition to the GSM air interface.” (Partial Response, 6)

Results of the Richmond and Bellevue MNLS trials were submitted in a redacted “Supplemental Response” of June 12, 2001, which sought confidentiality for

Exhibit A, which “includes information regarding the [MNLS] technology’s design (including architecture and call flows), implementation, network impacts, operational impacts, performance and reliability” (Supplemental Response, 2), and

Exhibit B, a report from Ericsson purporting to demonstrate that “MNLS-type technologies have been reviewed by many carriers and infrastructure vendors in other countries,” albeit using an “ECGI technology for GSM, the air interface used in Europe, rather than TDMA.” (Supplemental Response, 2, 3)

On July 10, 2001, more than three months after the filing of the Request and two months after the FCC’s order seeking the information, AT&T submitted the Denver MNLS trial results.

Despite these multiple submissions over an extended period, the Public Safety Organizations conclude that AT&T has not met the FCC’s Phase II waiver standards (note 1,

supra) and urge the denial of its Request, at least insofar as it is founded on MNLS as a location solution of indefinite duration for users of TDMA phones.

I. The Further Request for Confidentiality Should be Denied.

The confidentiality requested for Exhibits A and B is unsupported and should be denied, for the same or similar reasons that the earlier requests were refused. Given AT&T's reliance on the operational benefits of MNLS by comparison with third-party network solutions, it is astounding that the carrier would seek to protect Exhibit A with no more reasoning than is supplied in the Supplemental Response.² Exhibit A is said to be about the "overall impact on AT&T's network" of the MNLS technology. (Supplemental Response, 2) It is precisely the allegedly low impact and the asserted ease and speed of installing MNLS that have been cited as chief benefits of the technology. (Request, 3-4) What could be more germane than Exhibit A to consideration of the waiver?

As for Exhibit B, we are asked to take on faith the claim that ECGI on GSM is comparable to MNLS on TDMA. The request to protect Exhibit B is no better founded than for Exhibit A, yet Exhibit B's materiality appears equally plain. Given the paucity of independently verified MNLS testing in this country, it seems important that "MNLS-type technologies have been reviewed and evaluated by many carriers and infrastructure vendors in other countries." (Supplemental Response, 2) It is grossly inadequate to assert that the Ericsson report must take the place of European test results because "international carriers" refuse to let AT&T file them,

² Section 0.459(b) prescribes the showing AT&T should have made in support of the request for confidentiality, including "identification of the specific information for which confidential treatment is sought." It is doubtful that the entirety of Exhibit A is non-public information, particularly in light of the information AT&T submitted as Exhibit H to its Request. However, the carrier has not attempted to minimize and segregate the material most eligible for protection.

and then decline to disclose the Ericsson report as well. If Exhibit B is seriously intended to support the Request, it should be subjected to public scrutiny.

II. MNLS Is Not the Proven Best Choice for an Interim Location Solution.

The FCC need not, however, delay its decision pending release and public comment on Exhibits A and B. The results of the Bellevue, Richmond and Denver trials of MNLS simply confirm what has been evident since the release of the Grayson and U.S. Wireless (“USW”) field tests. There are better network solutions than MNLS for at least some typical radio propagation environments.³

The USW Seattle trial showed compliance with the 100-meter (67%) standard for both stationary and mobile calls, but failure for the 95% standard of 300 meters.⁴ The Grayson Redmond field evaluation demonstrated near-success (and vast improvement over MNLS) in stationary calls over the TDMA interface – 164 meters, 67%; 258 meters, 95% -- and somewhat

³ TruePosition tests also were released. Those results do not match the outcomes claimed for MNLS. TruePosition has countered that its Redmond trial was distorted by an unrealistic selection of difficult sites and that its “beta stage” equipment performance of 18 months ago has been much improved so as to meet FCC requirements not only for the AT&T air interface of TDMA but also for CDMA, AMPS and GSM. (Ex parte communications of 5/30/01 and 6/19/01, respectively) For purposes of these further comments, the Public Safety Organizations do not attempt to resolve the TruePosition dispute over the validity of the Redmond trial.

⁴ Request, Exhibit F, 6-7.

lesser performance for the AMPS interface (211 meters, 67%; 330 meters, 95%), for which MNLS has no solution at all.⁵

Only the Denver trial of MNLS permits the direct comparison of stationary results. The “Total Aggregate Stationary Position Error” found by AT&T was 351 meters (67%) and 650 meters (95%).⁶ The Redmond test reported an aggregate position error of 290 and 606 meters,⁷ while the Bellevue result was 301 and 708 meters.⁸ Neither of these distinguished stationary from mobile calls. Although AT&T has held out hope of improving MNLS performance over time, that optimism has been called into serious question by at least two location determination vendors.

In a submission of June 22, 2001, SigmaOne asserted that in AT&T’s reporting of the MNLS results:

No stationary data was provided because the effects of huge variations in signal strength, occurring over wavelength distances, cause huge errors unless averaged over traveling distance.

SigmaOne said this was problematic because – and the Public Safety Organizations agree – “most E-911 calls are in stationary positions.” SigmaOne ran its own tests of MNLS and

⁵ Request, Exhibit E, 8. The Denver test at Exhibit E turned out poorly for Grayson. Some murky light is shed on the matter by the joint letter of AT&T and Grayson filed June 5, 2001, which echoes the TruePosition claim that the beta-stage equipment in use at the time has since been improved. Grayson states that the expected “reasonable opportunity for the commercial deployment of a network overlay system” had all but disappeared with “recently announced changes in [AT&T] strategy.” Letter dated 3/12/01 from Grayson President Terry Garner to Karl Korsmo of AT&T. The Public Safety Organizations assume this refers to decision to switch from TDMA to GSM and to deploy MNLS in transition.

⁶ July 10, 2001, page 13.

⁷ Supplemental Response, Exhibit C, 7. This errs in AT&T’s favor. Figure 2 on the page plots the 67% probability number to be 380-400 meters and the 95% number 700 meters.

⁸ Supplemental Response, Exhibit D, 7.

reported errors three times or more higher than found by AT&T. It concluded that “this technique will never satisfy the Commission’s rules for accuracy and will perform well below the AT&T stated accuracies.”⁹

Although USW recently has submitted a partial defense of MNLS and a partial answer to SigmaOne, that vendor made essentially the same point about the low likelihood of improvement in MNLS by itself:

In order to achieve accuracy beyond the proposed MNLS goals of 250 meter-67% and 750 meter-95%, the MNLS system should be supplemented by a higher-resolution location solution such as the RadioCamera™ System or any other FCC compliant solution.¹⁰

The self-serving nature of this recommendation should not blind us to the recognition that USW met the 67% accuracy standard in the AT&T trial discussed at Exhibit F of the Request.

Similarly, SigmaOne has submitted “audited trial results” which it says “clearly demonstrate that even with beta system hardware and initial versions of the location algorithms used at the time of the test (March-October 2000)

the Sigma5000 system met the 67% FCC mandate in all suburban environments and fully met the 95% requirement throughout the compiled environments. Most importantly, even when subjected to rigorous test environments that included urban canyons, high-rise office buildings, hangars, underpasses, bridges

⁹ Letter of June 5, 2001, Exhibit C, 5, 6. AT&T responded to the SigmaOne critique only recently, but it does not appear to answer the question about the lack of MNLS reliability for stationary calls. Indeed, stationary calls had the poorest results in the only trial, Denver, for which they were separately classified. Submission of July 10 at 13.

¹⁰ Ex parte comments of July 11, 2001, 19.

and parking garages, the SigmaOne beta system attained a compiled accuracy across all environments of 110m-67%.¹¹

AT&T sees no drawback to the “lack of a firm transition date” (Submission of July 13, 2001, 8) by which GSM and E-OTD will replace TDMA and MNLS because it contends MNLS is comparable to other network-based solutions and brings additional benefits as well. Even taking MNLS at its best showing of approximately 300 meters (67%) and 600 meters (95%), it is not the proven best choice. Not when the technology’s capacity for improvement has been seriously challenged and when TDMA is to be kept in place indefinitely. And not given AT&T’s manifest indifference toward its stranded AMPS customers (Partial Response, May 30, 2001, 3-4), for whom MNLS is no help at all.

On the basis of the foregoing, the Public Safety Organizations respectfully submit that whatever operational benefits MNLS may offer to AT&T, they are outweighed by the greater public interest in the superior location determination solutions available from other vendors. To the extent that the Request depends on deployment of inadequate MNLS for an indeterminate period while the TDMA interface remains in service, the Request should be denied.

Whichever network-based interim location solution ultimately is selected, it should operate for the briefest possible time consistent with the feasible delivery of E-OTD handsets and accompanying network modifications. AT&T’s open-ended transition is not consistent with the reasoning in the VoiceStream waiver and should not be accepted.

¹¹ Letter of June 5, 2001, Exhibit B, 12. Results for TDMA and AMPS, of direct relevance to the AT&T case, are summarized at page 13 of Exhibit B. On information and belief, the carrier which heretofore has refused to disclose its participation in the SigmaOne trial recently was ordered by the Commission to make that disclosure. Once the material is available, we should be able to make the connection.

III. October 1, 2001 Must Begin a Definable, Enforceable Process.

The Public Safety Organizations urge carriers, equipment manufacturers and location vendors to think realistically about October 1, 2001 not as a “flash cut” deadline but as the opportunity to begin a process which, even under the current rules, will stretch over several years. That span of time is explicit for carriers choosing handset or hybrid solutions to the Automatic Location Information (“ALI”) requirements of Phase II.¹² Even for network-based solutions, implementation can be expected to occur at a pace set by PSAP requests – which will not be made all at once and are not likely to be filled simultaneously.

At the recent NENA annual convention in Orlando, during a special forum on the afternoon of June 27th, a number of local and state PSAP managers and 9-1-1 officials emphasized that it is time to begin the process. A panel of forum speakers well-versed in ALI technology repeatedly asked carriers, manufacturers and vendors to “stop telling us what you cannot do and tell us what you can do.”¹³

The Public Safety Organizations are not convinced, at this point, that Section 20.18 of the Rules requires any further amendment. Historically, the Commission has provided for so-called “de minimis” waivers of regulations where variances are slight.¹⁴ Concerning extension of compliance deadlines, the Commission’s prior warning bears repeating:

¹² See additional discussion of handset issues at Section IV, *infra*.

¹³ The forum was recorded on two cassettes available from Audio Transcripts at: 1-800-338-2111 (VA residents call 703-370-8273), by facsimile at 703-370-5162, or by mailing an order to Audio Transcripts, Ltd. at 3660-B Wheeler Avenue, Alexandria, VA 22304.

¹⁴ See, e.g. *Heritage Media Services*, 13 FCC Rcd 5644 (1998). In normal usage, slight variances would be 10% or less. See, e.g., Section 20.6(c) of the Rules. It would be an abuse of language, we think, to consider anything over 50% as minimal. Thus, 75 meters would be the outside limit for the 67% handset accuracy requirement, 150 meters for the 67% network accuracy standard.

We expect wireless carriers to work aggressively with technology vendors and equipment suppliers to implement Phase II, and to achieve full compliance as soon as possible.¹⁵

In this regard, it would help enormously if manufacturers and location vendors could place on the Docket 94-102 record, in light of their individual capabilities, intervals between placement and fulfillment of orders that are aggressive but achievable.

At the NENA convention last month, a wireless carrier panelist likened waivers to special contracts with the FCC. Once the terms of a variance from the rules are established, the failure to meet the terms ought to have consequences. As the Commission has promised:

[W]e expect to take any steps necessary to ensure that carriers take their obligations seriously, including assessing appropriate penalties on carriers that fail to comply. As noted, in considering the appropriateness of enforcement actions, we will take into account the extent to which carriers have made concrete and timely efforts to comply and to which their failure to do so was the result of factors outside their control. *Id.*

While these sentiments were expressed in the context of Phase II, they bear repeating where Phase I is concerned. The Commission has been asking carriers to report on their fulfillment of PSAP requests for Phase I service. Carriers with large backlogs of unfilled Phase I requests should not, in our view, be granted Phase II waivers unless conditioned on solid future performance in meeting Phase I deadlines.

¹⁵ Fourth Memorandum Opinion and Order, ¶45. Frankly, we are tired of being whipsawed between conflicting manufacturer and carrier claims that orders must precede production, or vice versa. Neither side should be bashful when the stakes in protection of life and property are so high. The parties can act mutually instead of one waiting for the other to commit.

IV. Where Do the Manufacturers Stand on the Handset Phase-Ins?

The waiver recipient, VoiceStream, must assure that, in less than three months (October 1, 2001), at least half of all new handsets activated are capable under its permanent location technology choice, E-OTD. Six months later, that new activation requirement rises to 100%. These handsets initially must meet the network accuracy standard of 100 meters (67%) and 300 meters (95%), and within two years achieve the tighter handset standards of 50 and 150 meters, respectively. Finally, the overall penetration of location-capable handsets is to reach 95% by the end of 2005.¹⁶

Like VoiceStream, AT&T plans to use E-OTD technology with its new GSM air interface. However, AT&T proposes no precise schedule by which to introduce GSM or E-OTD capability. It simply says that E-OTD will be implemented as service areas are converted to GSM. As to accuracy, the Request states: "Like VoiceStream, AT&T will commit to meeting the accuracy requirements for handset-based solutions of 50 meters/67% of the time by October 1, 2003, or will adopt another ALI methodology that comports with the Commission's requirements." (Request, 4-5)

Leaving aside how the FCC might impose a VoiceStream-like timetable for GSM (and thus, E-OTD) rollout – and we believe it should do so – we would like to hear from the manufacturers and the software developers whether handsets actually will be available to meet the VoiceStream and AT&T schedules – and, for that matter, the requirements of Nextel (assisted GPS),¹⁷ Cingular (TDMA to GSM) and the rest of the waiver proposals on file or to come. Lately, in private meetings, some manufacturers have been reminding the Public Safety

¹⁶ Fourth Memorandum Opinion and Order, ¶¶62-66.

¹⁷ Further comments of the Public Safety Organizations on the Nextel waiver request are being submitted separately.

Organizations that they never agreed to the handset rollout schedule in the current rules. What does that mean? To us, it implies that the manufacturers can't or won't meet the schedules proposed in the waivers.

If this is true, carriers, public safety and the FCC are setting themselves up for further disappointment and delay. If the manufacturers can't meet the waiver timetables, it would be better to know that now, rather than to hear later that failure of supply was "beyond the control" of the waiver carriers (and thus, arguably immune to carrier penalty for non-performance).¹⁸

Presumably, VoiceStream's ability to meet the conditions of its waiver can be tracked by the periodic reports the carrier must file.¹⁹ For waivers not yet granted, we suggest some species of manufacturer buy-in to the handset scheduling must be devised. Perhaps it could be as simple as a letter from the manufacturer to the carrier (better yet, to the FCC), verifying that the timetable in the carrier's waiver request is achievable.

CONCLUSION

It is time to stop the whipsawing and the blame-casting. It is time to begin seriously the process of Phase II implementation. The process is not designed to be flash-cut, nor need it be overly finicky on accuracy or deadlines, so long as variances are minimal and rational and the reasoning behind them can be applied fairly from case to case.

For the reasons discussed above, the AT&T Request as it concerns MNLS should be denied. As it concerns the transition to GSM, a timetable should be imposed that puts a frame on

¹⁸ See enforcement discussion at Section III, *supra*.

¹⁹ VoiceStream's first benchmark -- that by October 1, 2001 half of all new handsets activated be E-OTD-capable -- may be in jeopardy. The carrier was quoted recently as blaming Nortel and Ericsson for its limited deployment of the E-OTD solution this year. *Communications Daily*, July 13, 2001, 9.

AT&T's discretion. And any acceptance of the GSM aspects of the Request should be strengthened by an assurance from AT&T's handset manufacturer and related suppliers that the timetables in the partial grant can be met.

Respectfully submitted,

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The foregoing "Further Comments of NENA, APCO and NASNA" were sent today by regular mail to:

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