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July 14, 1999

The Honorable Robert F. Bennett  
Chairman  
The Honorable Christopher J. Dodd  
Vice-Chairman  
Special Committee on the Year 2000 Technology Problem  
United States Senate

Subject: Emergency and State and Local Law Enforcement Systems: Committee Questions Concerning Year 2000 Challenges

This letter provides answers to questions posed in response to our April 29, 1999, testimony on the challenges facing emergency services and state and local law enforcement systems in addressing the Year 2000 computing problem. At the time we testified, there was limited information on the readiness status of either the 9-1-1 system or of state and local law enforcement activities to conclude about either's ability to meet the public safety and well-being needs of all local communities during the transition to the year 2000. The questions and our responses follow.

1. *In your testimony, you say that only 18 percent of the 4,300 9-1-1 call answering sites throughout the nation responded to a Federal Emergency Management Agency (FEMA) survey, and that of those 800 or so respondents, only 16 percent or a little over 100 reported their systems Y2K compliant. That is frightening! It means that most of the nation's 9-1-1 systems, i.e., over 4,000, are not compliant. And it does not raise our comfort level that, with a little over 8 months remaining before the date change, most assert that these complicated systems will be made compliant in time. Are these statistics as alarming as they appear? What assurances do we have that Americans will have uninterrupted 9-1-1 service after the century change? Can you offer any reasons first for the low survey response rate, and second for the dismal performance of this group? Do you agree that, in general, those with the best programs are more likely to respond to surveys and, if so, are these statistics even more dismal than they appear?*

The general lack of information increased our concern about which—if any—critical emergency communications and law enforcement systems may not be compliant in time. However, we testified that successfully completing a 9-1-1 call next January 1—and taking full advantage of all the features of enhanced 9-1-1 service—is dependent on two major factors for which some good information is available. First, the ability of the public switched telecommunications network to transmit the call and, second, the ability of the Public Safety Answering Points (PSAPs) to process the call.

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With respect to the public switched network, the Telco Year 2000 Forum on Intra-Network Interoperability Testing, which is made up of local exchange carriers representing 90 percent of all access lines in the nation, recently conducted tests to determine whether the public switched network could carry calls in a Year 2000 environment. The tests were performed on 54 different configurations of central office equipment that included a majority of the network components used in North America. Only six Year 2000 problems were identified by the Telco Year 2000 Forum in over 1,900 test cases on these configurations, which involved 80 products from 20 different vendors. Assuming these tests were carried out effectively, their results provide some confidence that, if remediated effectively, the public switched network should continue to function into the new millennium with no major service interruptions caused by Year 2000 dates. However, these tests did not focus specifically on 9-1-1 services and, as such, they did not test numerous "back end" systems that a PSAP might use, such as computer-aided dispatch systems, call logging systems, call recorders, and radios. PSAP operators are responsible for ensuring that these systems operate and interoperate properly after the date change.

The status of the ability of PSAP efforts to ensure that they can effectively process 9-1-1 calls has become more clear since our testimony. The Network Reliability and Interoperability Council (NRIC) reports that major local telephone companies have taken action to ensure that PSAP systems they provide to their customers have been remediated. And since the time of our testimony, FEMA and the Department of Justice have worked to increase the response rate to the public safety organization Year 2000 readiness survey conducted by FEMA and the National Emergency Number Association. As of June 30, 1999, of the over 2,200 sites responding, 37 percent reported that they were ready for the Year 2000. Another 55 percent of those responding reported they would be Year 2000 compliant in time for the millennium.

We have no information regarding FEMA's initial poor response rate.

2. *We understand that contingency planning for most emergency service providers will consist of direct answering and dissemination of 9-1-1 calls, i.e., without today's level of automation. It strikes me that many organizations may not have the manpower or corporate knowledge to field calls "the old way." Do you think this is a viable option for contingency planning? If not, what concerns would you have with this type of contingency plan, and can you suggest an alternative?*

The business continuity and contingency planning process focuses on reducing the risk of Year 2000-induced business failures and on safeguarding an organization's ability to produce a minimum acceptable level of services in the event of failures of mission-critical information systems. Falling back to disseminating 9-1-1 calls without today's level of automation is a viable contingency plan, to which there is no feasible alternative, for the three 9-1-1 sites that we visited. Nevertheless, implementing contingency plans is not risk-free and requires careful preparation to ensure that core business processes are adequately supported. This preparation includes thoroughly testing the contingency plans, dedicating required resources to implement the plans, and training staff to fulfill their roles during contingency operations.

During our tours of 9-1-1 sites located in Arlington County and Fairfax County, Virginia, we were told that both sites use manual procedures when their computer assisted dispatch systems are not operating (such as during periods of scheduled maintenance or during unforeseen system outages). Similarly, during a more recent tour of the District of Columbia's Fire and Emergency Medical Services 9-1-1 site, we were told that the District of Columbia can operate using manual dispatching procedures and has recently practiced doing so. All three organizations recognize that operating without computer assistance lengthens service delivery times, but believe that performance remains within acceptable limits.

3. *You indicate in your testimony that outreach efforts by Justice have been targeted to raising awareness only, and have been largely ad hoc in nature. Did your review uncover any particular reasons why Justice's outreach efforts to the over 17,000 law enforcement organizations in this country have been so lacking? What if anything in your opinion should Justice do to step up its outreach activities?*

The department's outreach activities have been ad hoc in large part because Justice lacks a formal outreach program with stated goals and defined strategies for proactively reaching out to state and local law enforcement entities. With the exception of the Bureau of Prisons, Justice's component bureaus also lack formal outreach programs with goals and strategies. As discussed further in the following question, the FBI has taken actions recently to assess the capability of states to receive and send information through the National Crime Information Center (NCIC).

Since many of Justice's components have the same law enforcement counterparts at the state and local level, the department's efforts could be more effective if the department centrally defined and implemented a clear strategy, with measurable goals, objectives, and time frames, and targeted activities that were assigned to specific bureaus and were aimed at expediting the Year 2000 efforts of late starters.

4. *As you indicate in your testimony, little is known about the status of state and local law enforcement agencies because no assessment surveys have been conducted. We understand that the law enforcement working group of the President's Y2K Council now plans to conduct such a survey. What recommendations would you make to maximize the timeliness and value of this survey? Considering that there is little over 8 months remaining until January 1, 2000, what should be done with the results of this survey? Would a survey even do any good at this late date?*

According to the Acting Deputy Assistant Attorney General for Information Resources Management, the FBI recently completed a survey of the 50 states to assess their readiness to send and receive transactions with NCIC 2000 (the NCIC replacement system) and is in the process of summarizing the results. The FBI could use this information to target those state and local law enforcement agencies most at risk of not being Year 2000 compliant and develop appropriate strategies and contingency plans to respond to the risks.

5. *What do you believe are the biggest problems facing the emergency services sector at this stage?*

At a nationwide series of workshops for state and local emergency services managers sponsored by FEMA, the main issues raised by participants were (1) developing and disseminating public information, (2) successfully completing contingency plans and Year 2000-related tests and exercises, (3) obtaining resources to address the Year 2000 problem, and (4) addressing concerns about human services including medical care, needs of special populations, and provisions for food and shelter.

6. *Considering the seemingly low level of preparedness in the emergency services sector, particularly with Y2K compliance of complicated 9-1-1 systems, do you think it is likely that all of these systems can be repaired on time?*

Since we have not examined the remediation plans for the 9-1-1 systems in the sector, we are not in a position to assess the likelihood of their being ready on time. However, we recently collected data on the Year 2000 preparations underway in the nation's 21 most populous cities. Thirteen of the cities reported that their 9-1-1 systems are already Year 2000 compliant. Another five cities reported that their systems will be compliant by the end of September 1999. Two cities did not expect their 9-1-1 systems to be compliant until the fourth quarter of 1999. One city does not own or operate a 9-1-1 system.

Additionally, based on the results of FEMA and Justice survey work, the number of PSAPs reported to be compliant has increased, as well as the number of PSAPs indicating that they will be ready for the Year 2000.

7. *We understand that you recently toured one of the 9-1-1 centers in the area. Can you tell us about that?*

On April 21, we visited the Emergency Communications Center (ECC) in Arlington County, Virginia. Arlington County leases its 9-1-1 systems from Bell Atlantic, which has stated that the leased equipment is Year 2000 compliant. This equipment includes a call recording system, a computer-aided dispatch system, and a radio communications system.

Arlington County's ECC is served by eight 9-1-1 communication lines provided by Bell Atlantic. To minimize the likelihood of outages due to communication disruptions (such as severed cables), the trunks do not all come to the ECC from a single central office; four trunks come from one central office and four trunks come from another. In the aggregate, these trunks represent the ECC's communications capacity to accommodate peak traffic loads. Arlington County also operates a scaled-down ECC located at an alternate location that functions as a back up in the event of a disaster at the primary ECC. In the event of primary site failure, staff would literally flip a switch to reroute calls to the alternate site.

The ECC Administrator described the 9-1-1-call process for a hypothetical emergency call placed from Centreville, Virginia. The call would not be directly routed to the emergency response provider, but would instead travel to a service point operated by the local telephone company (in this example, operated by Bell Atlantic) located in either Baltimore, MD, or Philadelphia, PA. At this service point, a lookup is done in an Automatic Location Information (ALI) database.

The call is then routed from the ALI lookup to the PSAP responsible for dispatching an emergency response unit to the caller's location; this is referred to as "selective routing." At the PSAP, an operator's computer screen displays the following information: calling party address, community, state, etc. The operator verbally verifies the caller's address. If the address information is correct, the problem is coded, notes may be added, and an appropriate response is dispatched. If the information is not correct, the operator overrides the ALI information, inserts the correct problem location, codes the problem, and dispatches the appropriate response.

Arlington County has completed its Year 2000 assessment of the systems in use in its ECC and spent \$60,000 to remediate noncompliant software used in its touch-screen radio consoles. A contingency plan is in place and manual backup procedures are used in the event of computer-aided dispatch system failures.

On April 27, we visited the Fairfax County Public Safety Communications Center in Annandale, Virginia. Fairfax County has been working on the Year 2000 issue in conjunction with its PSAP vendor for about 18 months. On April 15, 1999, Fairfax County conducted a Year 2000 test of its PSAP system. The test was run for 2 hours during an off-peak period, during which time all system clocks were advanced. Based on the successful results of that test, Fairfax County officials expressed confidence that their PSAP systems are ready for the year 2000. However, in the event of a service disruption, PSAP staff would revert to the use of manual processes to deliver service to the public.

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We based our answers to these questions on interviews with Department of Justice and Federal Emergency Management Agency officials, analyses of 9-1-1 survey data, and our visits to PSAPs in Virginia and the District of Columbia. We conducted this work from April through July 1999 in accordance with generally accepted government auditing standards. We did not verify reported data or status information.

If you have any questions regarding this letter, please contact me or Ron Hess, Assistant Director, at (202) 512-6240. Other key contributors to this report include Kevin Conway, Debbie Davis, and Linda Lambert.



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