

NJ
10
5128
1987

PUBLIC HEARING

before

EMERGENCY RESPONSE SYSTEM STUDY COMMISSION

Public safety communications problems and
the availability of radio frequencies

April 1, 1987
Second Floor Courtroom
Monmouth County Hall of Records
Freehold, New Jersey

MEMBERS OF COMMISSION PRESENT:

- Assemblyman D. Bennett Mazur, Chairman
- S. Robert Miller, Vice Chairman
- Fred D. D'Alessio
- Chester Cohen
- Thomas P. Reilly
- Lieutenant Colonel David Fiedler
- Howard A. Kirkwood, Jr.
- Stephen A. Solowey
- Domenick Cotroneo
- Winnie Hartvigsen
- Captain Joseph Saiia

ALSO PRESENT:

- Anne M. Stefane
- Office of Legislative Services
- Aide, Emergency Response System
- Study Commission

New Jersey State Library

Hearing Recorded and Transcribed by
Office of Legislative Services
Public Information Office
Hearing Unit
State House Annex
CN 068
Trenton, New Jersey 08625

D. BENNETT MAZUR
CHAIRMAN

S. ROBERT MILLER
VICE-CHAIRMAN

BRAD ADCOCK
CHESTER COHEN
HARRIE E. COPELAND III
DOMENICK COTRONEO
BARBARA A. CURRAN
FRED D. D'ALESSIO
DANIEL J. DALTON
KATHLEEN A. DONOVAN
WINNIE HARTVIGSEN
JAMES R. HURLEY
HOWARD A. KIRKWOOD JR.
CHARLES NEWCOMB
CLINTON PAGANO SR.
THOMAS P. REILLY
STEPHEN A. SOLOWEY



New Jersey State Legislature
EMERGENCY RESPONSE SYSTEM STUDY COMMISSION
STATE HOUSE ANNEX, CN-068
TRENTON, NEW JERSEY 08625
TELEPHONE: (609) 984-0231

RECEIVED
OFFICE OF
LEGISLATIVE SERVICES
MAR 18 11 57 AM '87

NOTICE OF PUBLIC HEARINGS

The EMERGENCY RESPONSE SYSTEM STUDY COMMISSION will hold four public hearings as follows:

Wednesday, April 1, 1987 at 7:30 p.m. in the second floor courtroom, Monmouth County Hall of Records, Main Street, Freehold, New Jersey.

Wednesday, April 22, 1987 at 7:30 p.m. in the Student Center Auditorium, Morris County Community College, Route 10 and Center Grove Road, Randolph, New Jersey.

Wednesday, May 20, 1987 at 7:30 p.m., in Room 105 of the Career Building, Camden County College, College Drive, Blackwood, New Jersey.

Wednesday, June 3, 1987 at 2:00 p.m. in Room 424 of the State House Annex, Trenton, New Jersey.

The hearings will consider public safety communications problems and the availability of radio frequencies.

Anyone wishing to testify should contact Anne M. Stefane, Commission Staff, at (609) 984-0231 and should submit 20 written copies of testimony to Ms. Stefane on the day of the hearing.



TABLE OF CONTENTS

	<u>Page</u>
Bill Schultz Perth Amboy First Aid Squad	2
Thomas Emmons Chief of Communications Monmouth County Police Radio System	11
Edward Krueger Eastern Vice President Motorola	38

* * * * *

mjz: 1-49

ASSEMBLYMAN D. BENNETT MAZUR (Chairman): Ms. Stefane, please call the roll.

MS. STEFANE (Commission Aide): Mr. D'Alessio?

MR. D'ALESSIO: Here.

MS. STEFANE: Mr. Adcock? (not present) Mr. Cohen?

MR. COHEN: Here.

MS. STEFANE: Mr. Reilly?

MR. REILLY: Here.

MS. STEFANE: Mr. Mazur?

ASSEMBLYMAN MAZUR: Here.

MS. STEFANE: Mr. Miller?

MR. MILLER: Here.

MS. STEFANE: Colonel Pagano? (not present)

Lieutenant Colonel Fiedler?

LT. COLONEL FIEDLER: Here.

MS. STEFANE: Mr. Kirkwood?

MR. KIRKWOOD: Here.

MS. STEFANE: Mr. Solowey?

MR. SOLOWEY: Here.

MS. STEFANE: Mr. Cotroneo?

MR. COTRONEO: Here.

MS. STEFANE: Ms. Hartvigsen?

MS. HARTVIGSEN: Here.

MS. STEFANE: Captain Saiia.

CAPTAIN SAIIA: Here.

ASSEMBLYMAN MAZUR: I would like to welcome you to a hearing on the communications problems that may have arisen in your particular jurisdiction. This Commission has completed the first of its two tasks; that is, recommending procedures for implementation of an enhanced 911 system in New Jersey -- a statewide system.

The second part of our task was to explore other communication problems which may exist; problems in inadequate network coverage, crowded networks, the inability of units to

communicate with each other, and the like. A questionnaire has been sent out. I believe it was 2000 questionnaires that were sent out -- were mailed.

MS. STEFANE: Approximately, yes.

ASSEMBLYMAN MAZUR: Approximately 2000. Do you have a count on the number of responses so far?

MS. STEFANE: We do not have an exact count yet on the number of responses, but a lot have been coming back.

ASSEMBLYMAN MAZUR: Well, this is the first of four hearings we plan to have around the State, to see if there is anyone who wants to come forward to talk about his or her problems. It is no, you know, big deal. Just tell us the kinds of experiences or frustrations you may have had with the two items I have mentioned, and perhaps any others.

We have only one witness who has volunteered to testify. Not even one? (addressed to Ms. Stefane) Does anyone want to testify?

B I L L S C H U L T Z (speaking from audience): Are you looking for any specific topic?

ASSEMBLYMAN MAZUR: We would be willing to hear about any communication problems you have. That is our purpose; that is our function. Please tell us who you are, and tell us what is on your mind.

MR. SCHULTZ: My name is Bill Schultz.

ASSEMBLYMAN MAZUR: Come up and sit down.

MR. SCHULTZ: I am from the Perth Amboy First Aid Squad. One of the biggest problems we are facing right now is the sharing of our frequency with school buses. I don't understand the reasoning behind allowing school buses to use frequencies the ambulances have been assigned. We are getting tired of sitting there and having our radio communications interrupted by school bus drivers giving recipes from one to another, discussing individual children they need to pick up. "Johnny has a headache today. His mother called, and you don't

have to pick him up." "Go on to Joey Jones' house," and then detailed directions how to go from house to house. It has gotten to the point of being totally ridiculous.

Our crews have been out working on codes. They have been stepped on by the school buses and, to add insult to injury, the dispatcher gets on, "You'll have to repeat the message. You were cut out by that silly ambulance again." Our people are out there screaming for help, because they are working on a code and they can't get a medic unit.

It has just gotten to the point of being ridiculous. If they have to be on our frequencies, if they could limit their transmissions to whatever is essential, but getting down and giving recipes and detailed directions to houses; maintenance directions on how to check the oil on their school buses. These are all things we have heard on our frequencies, and it is totally ridiculous.

ASSEMBLYMAN MAZUR: Does anyone have any questions?

LT. COLONEL FIEDLER: How often would you say that happens?

MR. SCHULTZ: Limited to the daytime hours-- During the day, possibly as much as 50% of our radio transmissions are interrupted. It sounds like a lot, and it is. It is close to 50% of our transmissions during daytime hours, when school buses are on the road.

MR. MILLER: Do you feel this has interfered with patient care? Do you feel this has impeded your services?

MR. SCHULTZ: Definitely.

MR. MILLER: Is it getting better or worse?

MR. SCHULTZ: It is getting worse.

ASSEMBLYMAN MAZUR: Do you feel that these communications -- these broadcasts or these messages -- are really irrelevant to the school bus service? In other words, are they really something that shouldn't go over the air at all, under any set of circumstances?

MR. SCHULTZ: There is no way I can account for their giving-- All right, if they have to be on our frequencies-- I can understand a bus getting lost once in a while, or if somebody breaks down. This I can understand, but when one bus driver is giving another bus driver a recipe for beef stew--

ASSEMBLYMAN MAZUR: That actually happened?

MR. SCHULTZ: --detailed recipes -- cooking recipes I'm talking about. I mean there is no reason in the world for doing this over the air.

MR. KIRKWOOD: It would appear they moved from using the radio as a business communication modality into a private--

ASSEMBLYMAN MAZUR: A social--

MR. KIRKWOOD: --party line sort of setup. I wonder if they even know that we share the frequency with them down at the school bus driver level?

MR. SOLOWEY: Has there been any communication between your squad, or your town, and the members of the Board of Education?

MR. SCHULTZ: It is not the Board of Education; it is a private bus service.

LT. COLONEL FIEDLER: Have you looked into the sources? Do you know who they are?

MR. SCHULTZ: We have been sort of working with some different people, and we sort of got it down to a couple of bus systems it could be, just by listening to some of the streets they have been giving, and having our people take a ride around to see what buses they see on the streets. You know, it is that informal type of thing.

When I received your survey, I thought this was finally our chance to jump up and scream and holler and say, "Wow, somebody might listen to us."

MR. MILLER: Have you brought this to the attention of the FCC or tried to get help from anyone else?

MR. SCHULTZ: No, not yet.

MEMBER OF COMMISSION: Who does the frequency coordination for the special emergency channels in New Jersey?

MR. MILLER: There has been a change. It's no one in New Jersey.

What percentage of their communications do you feel are essential to their services?

MR. SCHULTZ: I don't have any idea what percentage of their communications is essential.

MR. MILLER: It sounds, from most of what you said, that they are kind of shooting the breeze.

MR. SCHULTZ: Probably most of their communications are essential. I don't know their operation; I don't know how they operate. I don't run a school bus service. If I ran a school bus service, I would be sure that my people knew where they were going before they left the garage, and they wouldn't have to call back for directions. This may be within the realm of their operations. Maybe they do have a very sporadic operation. Maybe it is run like a taxi service. I don't know.

ASSEMBLYMAN MAZUR: Does anyone on the Commission know anything further about how these school bus companies operate? Don't they have a route, and travel that route every day -- the same route? I question, what is the purpose of radio communication, other than for an emergency?

MR. SCHULTZ: I don't have any idea.

MR. SOLOWEY: Unless you are talking about private school buses; you know, not Board of Education, but private schools, you know, like Kinder Care, and stuff. To that degree, they might be picking up different pupils one day and not the next day.

CAPTAIN SAIIA: These people are licensed users, though. Our problem is really with the FCC for permitting this type of licensing for emergency services.

MR. SCHULTZ: Our problem is in frequency coordination -- whoever is doing that, maybe.

CAPTAIN SAIHA: Well, it's no good. Coordination is the FCC rules. The coordinators have to go by the FCC rules.

MR. SCHULTZ: Right, the FCC rules. I have gone to one of my vendors, and said, "My God, how can this be happening?" And he said, "It is totally legal." They are allowed to work within those frequencies. So I guess our problem does go back to the FCC for allowing the school buses on the same frequencies as ambulances.

MR. MILLER: Are you on the frequency that is identified for your county in the JEMS plan as JEMS 1?

MR. SCHULTZ: Yes.

MR. KIRKWOOD: Mr. Chairman, in my county, our JEMS 1 channel, which is used very widely in Burlington County, is shared by a large school bus service in Trenton. From 7:30 until 11 in the morning, and from two until five in the afternoon, there is heavy traffic. It seems to be related to exceptions to their normal routes: Someone missed the bus, so get a driver to make an unusual deviation from his preplanned--

ASSEMBLYMAN MAZUR: Jog to go pick him up?

MR. KIRKWOOD: Yes, or a breakdown. But, there is-- You know, if one of the employees has a baby, that will be discussed among all of the drivers who know that individual as well. This is not 10 or 15 miles from a county that works and depends on that entire channel.

ASSEMBLYMAN MAZUR: Now, this is a jurisdiction that is preempted by the FCC?

MR. MILLER: Absolutely.

ASSEMBLYMAN MAZUR: So, there is nothing the State Legislature can do to--

MR. MILLER: Except--

MR. KIRKWOOD: Outside of urging the FCC to change their way of thinking.

ASSEMBLYMAN MAZUR: Bug the FCC.

MR. SCHULTZ: Whatever happened to the idea that you were supposed to monitor for frequency, you know, to see if there were any other users on the air at the time?

LT. COLONEL FIEDLER: You are dealing with non-trained people. They are bus drivers; they are not radio operators. That is where the problem is.

MR. KIRKWOOD: They may, in fact, be violating one or more operating procedure rules.

LT. COLONEL FIEDLER: Sure.

ASSEMBLYMAN MAZUR: Of the company itself?

MR. KIRKWOOD: Of the FCC, which requires that you not interrupt other people's conversations, even if you share the channel with them.

LT. COLONEL FIEDLER: And which also limits your conversations to things strictly public service oriented, you know, not personal.

MR. SCHULTZ: From their operations, they are obviously working off of some sort of a tone-coded squelch, so they are not always hearing us. They have gone so far as, "That silly ambulance was stepping on you. Repeat your recipe." Obviously, sometimes they do hear us, and they really don't care. They will just step right over us. All of my portable radios are useless during the day. A lot of my crews won't even take a portable out with them on the road, because they are absolutely useless with so much traffic on our frequency.

A lot of the traffic is essential. We have private ambulance services along with school buses, along with some hospital security units, which were allotted -- licensed to be on that frequency before they were-- I understand the FCC is no longer allowing hospital security on our frequency. Some of the hospital security systems are on it because they were licensed before the change.

A lot of this stuff we can put up with. A lot of it is essential. During the daytime hours, with the school bus traffic on top of everything else, it just makes it almost unworkable.

ASSEMBLYMAN MAZUR: Are there any other questions? Yes?

CAPTAIN SAIIA: Just one, Mr. Chairman. Mr. Schultz, the other communications with the hospital, other than the interruptions from the school buses-- Do you have any problems -- hospital responding, or that sort of thing?

MR. SCHULTZ: No, not really. We have a large hospital in our town, and our response times, from the time we pick up a patient and realize what the problem is that we have to notify our hospital of, are usually minimal, like three to five minutes at the most. So, our hospital communication is minimal, because we--

MR. COTRONEO: Do you have a HEAR radio system?

MR. SCHULTZ: Yes.

MR. COTRONEO: So, that is not being used.

MR. SCHULTZ: We do use it. We do use our HEAR radios, and we rarely have a problem with them.

MR. COTRONEO: That is not being interfered with?

MR. SCHULTZ: No.

MR. SOLOWEY: What about communications to the medics -- the paramedics?

MR. SCHULTZ: With paramedics we face the same problem, because the paramedics come down on our JEMS 1 frequency.

MR. SOLOWEY: So, you are talking about--

MR. SCHULTZ: So, then, we are back with the school buses.

MR. SOLOWEY: So, when you are talking back and forth with the paramedics, that's--

MR. SCHULTZ: That is also interrupted, because a lot of times with the medics, you face a problem that, you know, you are going to face with 911 when you get into that system, regional dispatchers -- people who are not familiar with the individual streets. We wind up calling a dispatcher who is on the other side of the county, someone who is totally unfamiliar with our town, and giving him a street address. If he gets the wrong pronunciation, or something like that-- We do need that communication with our medics when they are rolling in. Very frequently, we will have to tell them, "No, it's" -- you know, give them the right pronunciation of the street and, "Oh, that is all the way the other end of the town," or something.

So, we do need communication with our medics. Unfortunately, for our medics to communicate with us, they have to come down on the school bus frequency, and we are into the same hassle again.

MR. COTRONEO: Do you have a central dispatch?

MR. SCHULTZ: We maintain our own dispatcher.

MR. COTRONEO: Your own dispatcher. How do you get your initial call for an emergency?

MR. SCHULTZ: They call our building.

MR. COTRONEO: They call your building?

MR. SCHULTZ: We have our own dispatcher there.

MR. COTRONEO: Twenty-four hours?

MR. SCHULTZ: Yeah.

MR. COTRONEO: And then he notifies the--

MR. SCHULTZ: Then he notifies the-- Well, we are on a scramble system during the day, so we have a paging system during the day.

MR. COTRONEO: Okay, that is what I was going to ask you.

MR. SCHULTZ: At night, we have a night crew which is in the building.

MR. COTRONEO: Who allocated your frequency originally? Was it the installer of the radios in your rig?

MR. SCHULTZ: The vendor we were dealing with arranged for the frequency coordination at the time we purchased our system. I don't know who did the frequency coordination.

MR. KIRKWOOD: Well, that is your JEMS--

MEMBER OF COMMISSION: It sounds like Public Safety.

MR. SCHULTZ: No, we were on the air before the JEMS system came into effect.

MR. KIRKWOOD: And it just happened that that worked out to be your JEM system?

MR. SCHULTZ: It just happened that whoever was doing our frequency coordination, we were on this frequency along with a couple of hospital security systems, and that was nice, way back 10 or 12 years ago. Then New Brunswick EMS came up on the same frequency, and that placed the two busiest cities in our county on the same frequency as the working and dispatch frequency. Then there was some brainchild who came around with the idea of JEMS 1; placed JEMS 1 on the same frequency as the two busiest cities -- placed JEMS 1 on the same frequency that the two busiest cities in the county were using for dispatch and working frequencies. This got a little hectic. So, what it works out to is, the only difference between everybody stepping on everybody is, thank goodness for a tone-coded squelch. If not for that, you know, we would be hearing everyone in the world. But, that was a problem with frequency coordination, and that was done years ago.

CAPTAIN SAIHA: Do you mainly deal with one hospital? Do you get the same results with other hospitals using the HEAR system -- good response times?

MR. SCHULTZ: If we have to go to other hospitals, I really don't see a problem with the HEAR system. We call the hospitals. ~~They have been replying quite readily~~

CAPTAIN SAIIA: We have heard some complaints that the hospitals were not responding because they were shutting radios down. You haven't noticed that problem?

MR. SCHULTZ: The number of times that we use our HEAR system, no. We are not a big user of our HEAR system.

CAPTAIN SAIIA: Especially with two- or three-minute run times.

MR. SCHULTZ: With short run times, by the time you get through your full patient evaluation, "Well, okay, now we can move the patient." The first thing you realize is that you don't need advance life support. Okay, you are going to move the patient. By the time you get the patient in the ambulance, and you dial up a hospital, you're there. So, our HEAR system use is minimal. There are other squads in our county I know who could give you wonderful stories about the HEAR system, because they are running 15- and 20-minute response times. We really don't see much of a problem with the HEAR system.

CAPTAIN SAIIA: Thank you.

ASSEMBLYMAN MAZUR: Are there any other questions?
(no response)

MR. SCHULTZ: Thank you, gentlemen.

ASSEMBLYMAN MAZUR: Thank you very much. Is there anyone else who would like to speak? Here we go.

T H O M A S E M M O N S: My name is Tom Emmons -- Thomas, for the record. I am Chief of Communications of the Monmouth County Police Radio System. I would like to welcome you all to Monmouth County.

Most of the discussion, or previous testimony, was around a radio service licensed by the FCC, known as the Special Emergency Radio Service. As you may or may not know, there are quite a few different radio services in public safety which are licensed by the Commission.

Does anyone here have a set of the FCC rules with them tonight?

ASSEMBLYMAN MAZUR: Everybody is looking at Captain Saia.

MR. EMMONS: That's okay; I forgot mine, too. The FCC, off the top of my head without looking at the rules -- and this is kind of tough to do -- permits school buses, veterinarians, first aid vehicles, etc., to be licensed on a Special Emergency Radio Service channel, which, under the New Jersey JEMS plan -- as you may know -- conflicts with the general rules of the FCC. They don't care about the JEMS plan; they never recognized the JEMS plan. If they did, I apologize, but, Bob, have you ever heard of a record of the FCC acknowledging it?

MR. MILLER: There is a letter on file at the Health Department that they would, when giving out licenses, consider the plan, yes. I would agree with you that they have not, but the Health Department does have a letter that states that.

MR. EMMONS: Prior to October 22, 1986, technically there was no coordinator for Special Emergency Radio Service frequencies. There was a volunteer coordination done by APCO in a group that worked with the Hospital Association. Bob Miller and myself were both on that committee -- that radio committee. We would review the frequency coordinations and make recommendations to the frequency coordinator.

Now, presently, the frequency coordination is done by Neighbor and the International Fire Chiefs Association and the International Municipal Signalmen's Association -- IMSA -- as recognized by the FCC, under a new frequency coordination plan, which basically took police and local government radio services and put them under the APCO coordinators, and took the fire radio service channels and put them under IMSA and the International Fire Chiefs Association -- a joint effort -- for the fire services.

So, presently, Neighbor, which -- Does anyone know what Neighbor stands for?

MR. MILLER: National Association of Business Education Radio.

MR. EMMONS: Thank you. National Association of Business Education Radio. I didn't hear public safety in there. Now, IMSA has a proven track record as being the coordinator previously for the fire radio service, and is public safety oriented. The problem with the rules on Special Emergency Radio Service channels and why do school buses interfere with first aid squads is very well known. The FCC permits the two of them to be on the same channel. Obviously, from the testimony given prior to me, that gentlemen doesn't like school buses, and obviously school buses don't like EMS. The problem is, the services are not compatible on the same frequency, as demonstrated by the previous testimony.

Monmouth County, right now, operates in accordance with the JEMS plan. We are dispatching paramedics countywide at Police Radio Service. We share that frequency with many other users. There are many occasions where the paramedics have to ask the county to switch to another channel, or the dispatcher has to ask the paramedic to switch off of our EMIS 1 channel, if you will -- our JEMS plan countywide dispatch channel -- to a private local government channel that we use basically for emergency communications, which we are very lucky to have.

Why is there such a shortage of spectrum? Well, obviously, we have two things going against us. One is New York City, and two is Philadelphia. We are right in the middle. Sometimes even Washington, because that is where we are. Why are we so congested? Well, New Jersey is the most densely populated State in the United States, over 900 people per square mile. Yet, we have New York City to contend with, with frequencies, and we have Philadelphia to contend with, with frequencies. Here we sit, right now, right square in the middle.

I can hear New York City like you wouldn't believe. If it weren't for a gallant effort on the part of myself and an engineer in the New York City Fire Department, we would probably still be-- The firemen would still be mad at the New York City Fire Department, as an example. We have agreements with them that if either one of us need the frequency for operation -- that is our primary fire dispatch frequency -- we will advise the other party and they will limit all communications to truly emergency essential matters. That type of cooperation is hard to find in the industry today because the number of people, the number of channels, the number of users is just so diverse, and the need is so great for additional frequencies to meet this need, and the frequencies are not there.

I didn't plan on testifying tonight. I came to listen to all the testimony, and again I wind up testifying like I did before. Maybe I should ask the Commission what questions they have of me. I have been in the radio business since 1969, when I started as a technician. I have seen the changes over the years. I am also past President of the Atlantic Chapter of APCO, which is now the primary frequency coordinator, if you will.

What questions do you have of me?

ASSEMBLYMAN MAZUR: Questions?

CAPTAIN SAIIA: Mr. Emmons, why aren't more people complaining about these problems? You know, Mr. Schultz was quite emotional over it. I have heard other people quite emotional over it, yet we don't see any outpouring. Is the problem really that bad out there?

MR. EMMONS: I don't know why the people aren't here. As a matter of fact, I am quite dumb-founded to find one first aider come in to testify, when I expected to see 50 squads behind me right now. I can think of numerous people who should be here to give testimony. I don't know why they're not here.

All I hear, day in and day out, are complaints about interference, and yet nobody is here to testify.

MR. KIRKWOOD: Do you think -- and I say this after reading every back issue of the "APCO Journal" I could find -- there is simply an acceptance that nobody is going to get the FCC to change their ways, and we might as well live with what we have -- among the user population?

MR. EMMONS: Well, that is possibly some of it, knowing the kind of a battle that Bob Miller personally did over the years fighting the FCC and trying to get them to change their mind, or trying to get them just to get frequency coordination in the special radio service. They never allowed it; they just said, "No."

I could file an application with the FCC prior to October 22 for a license, and they would grant it to me without coordination. Now you want to know why there is such a mess. Well, I think it is obvious. There are not enough local government radio service channels to allow the first aid squads to work on them. First aid squads are probably very unique in this State also, as compared to other states, in the fact that they primarily provide volunteer services, at least in this county they do, except for the advance life support, which is provided by the paid paramedics.

Why the people aren't here complaining, I don't know. You had a question before-- Captain Saiia had a question pertaining to whether first aid squads can reach the hospitals. In Monmouth County, there are hospitals that do not answer the HEAR system.

CAPTAIN SAIIA: Why?

MR. EMMONS: Why?

CAPTAIN SAIIA: Yes.

MR. EMMONS: Because the volume is turned down and they can't hear it, or the alerting mechanism sounds similar to like a heart monitor going wacko, and they don't want to upset heart patients in the emergency room.

CAPTAIN SAIIA: This goes back to the problem you just talked about a few minutes ago, the other interference on there. That is why the hospitals are shutting them down. If it were only emergency communications, they wouldn't be shutting them down, right? They don't want to be listening to this interference. Is that part of the problem?

MR. EMMONS: I don't think it's that as much as it is that-- Well, no, they don't monitor. That's true. Now, as you know, the JEMS plan, or the way the hospitals work-- Maybe the Commission doesn't know. You know, I have to sit here and assume you know everything there is to know about radio. That is quite difficult, I know, because many of you know nothing about two-way radio. I apologize for that.

The way the HEAR system works right now is, either digitally, or-- I guess it is all touch-tone now in the hospitals. They dial touch-tone pads, similar to what you have on your telephones. They dial a number to raise a hospital. That sets an alert off, so the hospital will not come and pick up their radio and talk on it. That system -- if it is working -- works great, primarily because now the hospital doesn't have to monitor that radio. It is like somebody calling another person. You don't have to monitor the phone. The phone rings, so you go pick it up and you talk on it. And that is the idea behind it. I think that system works. The problem is, I think sometimes the internal mechanism in the hospitals doesn't work. I don't want to mention any names, because I don't know if the situations have gotten better, if supervisors have changed attitudes or personnel, or what the specific problems are. I don't know.

MR. SOLOWEY: Tom, does this work the same way with the paramedics, if the paramedics call into the hospital?

MR. EMMONS: I have literally no knowledge about the paramedics because--

MR. SOLOWEY: I am just curious about whether they get answered immediately.

MR. COTRONEO: No, they have telemetry.

MR. EMMONS: They have telemetry, and they are working through the Community Memorial Hospital, through the switchboard down there, and it is all tied together. I don't know what their communication problems are; I really don't. It is a totally separate system from mine.

MR. KIRKWOOD: There is a third party in there; the Med-Com dispatcher is in there.

MR. EMMONS: Right.

MR. KIRKWOOD: The hospital receives no extraneous noise on the radio because the hospital's console is disconnected from the radio until the medical dispatch coordinator hooks the two of them together. So, there is no noise except what is supposed to be there.

Secondly, there is a telephone line from the Med-Com Center to each hospital, where if they don't pick it up in 30 seconds or a minute, the dispatcher can call them and say, "The paramedics are trying to reach you."

I wanted to add to what you just heard here, in that not all of the hospitals in this State are in compliance with the design parts of the JEMS plan. In our county, they didn't all convert to DTMF decoders in the hospital. They were still working on private line or tone-coded squelch--

CAPTAIN SAIIA: And, there was (indiscernible) of the old type, and that caused some problems.

MR. KIRKWOOD: There is a huge amount of noise both from school buses and from Pennsylvania services. The other night -- three in the morning -- we were actually in direct communication with Washington, DC's Med Star helicopter, as it was flying around the Capitol. But, the hospitals didn't install the DTMF decoders; therefore, there is a lot of nonsense and jibberish which comes across their radios. Then they turn them down and, therefore, they are not there when they are needed.

So, if we are looking for things the Legislature can do, one of the things is to mandate compliance with the JEMS plan as amended by competent authority. The other end of that is that there are an awful lot of ambulances in the State that are not equipped with radios that meet all of the specifications of the JEMS plan. Both ends have some problems, because compliance with it was optional.

CAPTAIN SAIIA: Mr. Chairman, that is one of the things that something is being done on. The Governor's Council on Emergency Medical Services-- Some of the members here are members of that also. Bob Miller is working in that area also to revise and update this JEMS plan to cope with some of these problems. So, there may be some relief in sight in that area.

One other question I would like to ask Mr. Emmons, if I may, is, do you see any relief in these areas from new allocations that are going to be allocated through the new national plan? Will it relieve problems like this, or will it create more problems?

MR. EMMONS: Let's put it this way: There are six megacycles -- I think that is what you are referring to -- of 800 megacycle frequencies available.

CAPTAIN SAIIA: You don't talk in terms of cycles anyway, that dates you. (laughter)

MR. MILLER: Six megs; six megs, Tom.

MR. EMMONS: It hurts when you say that.

CAPTAIN SAIIA: I don't remember cycles.

MR. EMMONS: Megahertz, excuse me. My electronic school days were right on the threshold of hertz and cycles, so it's six of one and half a dozen of the other.

But, to answer the question, right now we don't know what the plan in the State is going to turn out to be, as you know. You are familiar with the plan. Right now, there are various-- ~~There is actually a task force created by APCO~~ through APCO's recommendation, rather -- and created by the

FCC, looking into a plan for these new, probably the last to be, channels that will be available for special emergency -- in our lifetime anyway. It will probably relieve a lot of the city dispatch needs. The problem is, I don't know if their frequencies are truly applicable in a countywide system.

The major problem with the new frequencies is intercommunication. What we were talking about before here was the JEMS radio plan, which is probably a good plan, but how many frequencies are in that plan? How many specific frequencies are in that plan, Bob, do you know?

MR. MILLER: There are six for dispatch, one for hospitals, two for -- I'm sorry -- one for statewide coordination, and then there are some others, like, 155400, and so forth, that are restricted to hospitals.

MR. EMMONS: So, basically, you're saying--

MR. MILLER: One is set aside for ambulant coaches and two for paging, so I guess you are talking about 12 or 13 frequencies altogether.

MR. EMMONS: But you said six channels for dispatch.

MR. MILLER: Yeah, I believe there are six that can be used for dispatch.

MR. EMMONS: On the high-band radio system, six channels for 21 counties, in a population of 900 people per square mile.

ASSEMBLYMAN MAZUR: Not down at this end.

MR. EMMONS: Well, there are 472.6 square miles in Monmouth County, and there are over 500,000 people.

ASSEMBLYMAN MAZUR: That's a little better than 100 people per square mile.

LT. COLONEL FIEDLER: Have you used any other means of getting traffic onto those frequencies, other than a coded squelch? Have you tried anything?

MR. EMMONS: We use tone-coded squelch in our entire system. Now, the Monmouth County police radio system consists

New Jersey State Library

of various police frequencies, various local government frequencies, various fire frequencies, various forestry conservation frequencies, and Special Emergency Radio Service channels. All right? Now they all have tone squelch in them, except for the State forest fire frequency, which is a forestry conservation network.

LT. COLONEL FIEDLER: Other than the coded squelch schemes, you haven't used any equipment to get more users on the single frequency?

MR. EMMONS: Yes. I use digital and touch-tone dial decode on all three EMS channels.

LT. COLONEL FIEDLER: Okay. But, everything is voice. There is no data involved.

MR. EMMONS: No data, no.

LT. COLONEL FIEDLER: With the fixed bag of frequencies we have, the only way to get more traffic on a frequency is to go to some digital data for your routine repeatable traffic, three- and four-minute messages, and that sort of thing.

MR. EMMONS: That's true, but in dispatching EMS, etc., when you are talking primary services such as that, and primary police services, and primary fire services, the only -- the quickest method is obviously voice communications.

LT. COLONEL FIEDLER: Well, there is some question about that. Is it any quicker to give the guy voice communication on a jammed up frequency where he won't get anything through, or is it easier to enter the address that you want to send him to, and burst it out in a couple of noise seconds, with a very low probability of--

MR. EMMONS: What you are not taking into account, sir, is the amount of time it takes the dispatcher to actually type that information out also.

LT. COLONEL FIEDLER: Undoubtedly, that versus the amount of time to work through the interference.

MR. EMMONS: Then, of course, you are also assuming that the party on the other end of the line can read.

LT. COLONEL FIEDLER: If he is an ambulance driver, I hope he can.

MR. EMMONS: That was a joke.

LT. COLONEL FIEDLER: Don't laugh. In the Army, we have people who can't.

MR. MILLER: I might also add, we are not really talking about too many canned messages.

I would like to welcome you here, Mr. Emmons. I appreciate your welcome. I think it was nice of you to take the time to come out and talk to us tonight, and I have just a few questions.

When you talked about the Hospital Association, you gave me the impression that the problem on the hospital end, perhaps, is that there are more people than equipment. Is that a correct assumption -- on the air base?

MR. EMMONS: I'm sorry, Bob; I didn't hear your question.

MR. MILLER: The air base -- at the hospital-- Do you consider that to be more of a people problem, or an equipment problem -- hospitals not answering the ambulances?

MR. EMMONS: A little bit of both. One, there is probably not a continued effort on everyone's part to maintain the equipment, and two, the people problem.

MR. MILLER: What would be your suggestions-- I mean, I think we have all kind of broken this down into dispatch and medical notification -- communication from the vehicle to the hospitals, via the HEAR system, or whatever. What would be your recommendations to improve both systems? Or, do you think it is useless with the limited number of frequencies?

MR. EMMONS: The last time I looked, there were 21 high-band fire channels. That is one for each county. I am using six of them -- or five -- five of them right now in the

countywide plan. The fire system in Monmouth County had something like 28 different base stations on the countywide fire dispatch channel, which is also used by other departments -- or individual departments in the county. We don't dispatch the firemen in an essential dispatch configuration. We only dispatch a few of them -- about nine, to be exact.

The only thing I see changing the public safety picture is possibly the release of TV channels in the 450-500 megacycle band within the next 10 years or so, and a good, solid communications plan being adopted, at least in New Jersey, to utilize those channels to provide services. Probably the most important aspects of communication I am concerned with are those of interdepartmental communications and interagency communications, meaning that the police officer should have the capability to intercommunicate with the first aid vehicle, and likewise with the fire vehicle, etc.

Today, there are not enough frequencies to meet the basic needs of public safety, which was recognized by the Commission -- meaning the FCC -- when it adopted and released the huge amount of spectrum in the 800 megacycle band. I don't know if that frequency is what New Jersey needs. I know that if they release just two TV channels in the UHF spectrum, it would provide us approximately 240 pairs of frequencies. A TV channel in the UHF spectrum uses six megahertz of frequency, which is approximately 120 pairs, or 220 frequencies per channel. I think, over the years, people would rather be entertained than be provided with good, public safety communication services. They would rather have the entertainment than they would the 220 frequencies per channel that could be available to the public safety communities.

Congress recently mandated the FCC to prioritize public safety as the number one need, next to national security. I think the Congress made an effort in the right direction and, because of that effort, the result was this six

megahertz of 800 megs spectrum to be basically planned for by the public safety community. What are the results in the long term? I don't know what the 800 megacycle picture is going to be. What would help right now? Probably the creation of a vital, necessary, solid communications plan, utilizing the UHF frequencies in the TV bands.

MR. MILLER: If some of these TV channels were released for public safety, do you feel there would be enough TV spectrum left for entertainment?

MR. EMMONS: I don't know about you, Bob, but I can only watch one TV channel at a time. I don't ever remember watching a UHF channel since I have been in New Jersey. I believe that in 10 years-- I wish I could remember the statistics. Within the next 10 years, New Jersey residents will probably have Cable TV service, except for about 10% of the population. So, the question is, do you actually need the broadcasts? -- period. Yes, I still think you do, because obviously not everyone can afford Cable TV. I think primarily the UHF channels in New Jersey are not utilized by the public.

CAPTAIN SAIIA: For one thing, Tom, I think people who watch, can watch more than one channel at a time. There could be many, many channels available, and still be ample space, if we gave up a couple -- four or five -- channels nationwide for public safety. There would still be ample channels for those people who can look at more than one channel.

MR. EMMONS: I think possibly the major cities would disagree with you, and I am sure the broadcasting industry would strongly disagree with that statement. However, I think four or five channels could be given up right now, and it wouldn't even put a dent in entertainment.

CAPTAIN SAIIA: I think so, too. But, one other thing, Tom, I would like to ask you about is, in your role as the APCO Atlantic Chapter President, did you find that the police and fire community was in similar straits as the EMS

community? We haven't heard anyone testify on that, but it is my understanding that they are in just as much, or more trouble than the EMS community, as far as frequencies are concerned.

MR. EMMONS: If you are using the term generically, okay, yes, it is probably the same because, believe it or not, the policemen complain about the policemen, or the policemen or the firemen complain about the garbage trucks that are on their local government radio service channel which they are using for police use or for fire use. Local government radio service-- You can have anything in local government on it -- contractors, anything, it doesn't matter.

MR. MILLER: Would you say they are going to that because of a lack of fire frequency spectrum, and police frequency spectrum? I mean, if they had protected spectrum with police and fire, why would they go to LG?

MR. EMMONS: Yeah, well, where are you going to go? -- period. All right? Where can I find a frequency right now in a VHF band in Monmouth County? There is no way I can. I can't find another police channel. I couldn't put another repeater on it if I wanted to. There are just no frequencies there. I am lucky to have what I have. I feel very comfortable with what I have, and I think I can meet Monmouth County's needs.

MR. KIRKWOOD: Is that because-- Well, in Freehold Township here, we have a local government channel. Is the use of that channel so sporadic that there is room for the police to come off of a police-assigned channel and work on that local government channel relatively unimpeded during most of the day? Is that the escape route -- I guess that is what I am asking -- from a crowded police channel?

MR. EMMONS: I don't know how to answer that question, because it is kind of a strange situation. If a government agency is using a local government communications -- or local government radio service channel, and using it for police, they generally don't have their garbage trucks on the same channel.

But, their neighbor, within 15 miles, probably does have their garbage trucks on it, or their fire vehicles. That is where the problems come in, when you have unlike services in this-- You know, that is the problem. And, anybody is going to complain about anything else. I have heard every complaint you could possibly believe -- all right? -- and many of you have, too.

But, getting back to the police. The police have some definite needs, obviously. Maybe the SPEN radio system -- the Statewide Police Emergency Network -- may have helped some of those needs. At least it provided other channels which they could utilize for interdepartmental communications.

I have a question for you: Why aren't most of those communities out there using it? In some municipalities, the police cars cannot communicate with anyone but their own dispatcher. That is the way that community wants it, and they think they can meet the needs of their community that way.

MR. KIRKWOOD: Is participation in that also optional -- in SPEN?

CAPTAIN SAIIA: It certainly is optional.

MR. KIRKWOOD: Like JEM. If you want to be--

ASSEMBLYMAN MAZUR: Excuse me, fellows, we are trying to tape this for a record. So, you know, mumbled asides, or anything like that, do not record. So, Captain, if you will move that microphone a little closer--

CAPTAIN SAIIA: Yes, sir.

ASSEMBLYMAN MAZUR: --you know, and all of us be a little conscious of trying to get everything on the record.

CAPTAIN SAIIA: As far as SPEN is concerned, there are a number of problems with SPEN. We are trying to meet those problems with the automatic number identification to cut down on annoying interference. We will promote it in a different way, to try to get more users to use it. It does serve that need. For areas where there is no inter-operability, no common

channels, it answers that need. It has to be promoted a little more before it becomes universal in this State.

MR. EMMONS: I agree with you, by the way, about the automatic identification. That is really sorely needed on those channels.

CAPTAIN SAIIA: Well, that was a conscious choice made when the system was developed, whether to get more radios or to put that on there. We elected to go with more radios at the time. We have found out that that may have been a mistake, but we are addressing that at this time.

MR. EMMONS: Hey, we're all human.

MR. SOLOWEY: How many channels have been put aside for SPEN? Besides the SPEN base, there are what, three other channels?

CAPTAIN SAIIA: A total of four, I guess, including the national common channel.

MR. SOLOWEY: Four altogether?

MR. EMMONS: Channel 4 and Channel 3-- When you get in certain parts of the State, they are almost useless because other states are using them for dispatch purposes. So, it sounds great on paper, but-- The international frequency is probably-- I would consider that a dead frequency. No one ever uses it, but the other two -- 3 and 4 -- are very busy, with other systems working on them in other states. Of course, we don't hear it, because we have a channel guard on, right? Or, a private line; that is, a tone-coded squelch system, which you may not understand.

LT. COLONEL FIEDLER: In cases where you can clearly identify garbage trucks and school buses as being heard miles outside their operational area, have you ever attempted to go down there and attenuate their signals, so that they would not interfere?

MR. EMMONS: Most of the people who are operating the systems don't even know the definition of the word

"attenuation." So, I think, practicality-wise, no, I have not made an effort to do that. I was involved in a town vs. New York City something or other one time many years ago, which resulted in power being turned down by both parties and directional antennas being used to limit the interference, etc.

MR. KIRKWOOD: How did that work out?

MR. EMMONS: Pretty well, believe it or not.

LT. COLONEL FIEDLER: There is one practical thing you can do right away. You've got the school buses and you can hear them 20 miles outside the (indiscernible). You can just put in a less efficient antenna, or put an attenuator in the antenna, and you can knock them down to the point where you won't hear anything, but yet they can still operate in a small area. The same with hospital security. You could do that also, because a hospital is usually more than two buildings. You can knock them down.

MR. EMMONS: I want to say something to really make you understand what I am trying to say. Before when I was testifying, I said something about New York City and Philadelphia. Today, I was up in a helicopter over the Allentown area doing some research on a tower site. When we were taking the pictures, I looked over and I saw the City of Philadelphia over there, and I turned around and I saw the Twin Towers in New York City. That is how small our State is. I was at 1000 feet. I wasn't at 20,000 feet, or anything like that; I was at 1000 feet, and I could see both. That is the first time I ever had that experience. If I was in that helicopter with a 10-watt radio, I could communicate to both of those points with no problem whatsoever.

LT. COLONEL FIEDLER: Absolutely.

MR. EMMONS: At 1000 feet. Now, that is what is scary. We're talking about 21 counties that are-- Especially, like, Monmouth County, Gloucester, Burlington, Camden-- We are all just right between them -- and Trenton -- just right between this big corridor of rush.

MR. MILLER: Mr. Chairman, I would like to add one footnote to Tom's comment -- a point of interest. I think the SPEN is a good working overlay system for what it was designed for. But, you mentioned that SPEN 3 and 4 are kind of worthless in South Jersey.

When the President came to Glassboro, they were two frequencies we had in a lot of vehicles -- particularly SPEN 4. So, they were some of the frequencies that were used. We constantly competed all day long with the Chester Police Department across the river. It was a real mess.

MR. EMMONS: That's cute. I know we switched down-- I was in a convoy situation, traveling somewhere, and I had to talk to another party. We switched down to SPEN 3, and we just couldn't use it. We had to go to some other channel.

MR. KIRKWOOD: A question, sir: You mentioned making someone's antenna less efficient, and so on. Is there a body that-- You know, if I want you to reduce power, and you don't want to reduce power and cooperate with me, who is in the middle? Who can make that work?

LT. COLONEL FIEDLER: I think the FCC District Engineer can order you to, but--

CAPTAIN SAIHA: We agree the frequency coordinators get a shot. They are doing this. They have done a fantastic job in this State. Sometimes they don't get a shot in Special Emergency Services. Where they get a shot, they do it, and they do it very well. The powers have been dropped in this State over the last 20 years unbelievably. It used to be very common to have 150-watt transmitters in New Jersey. We just don't have them any more.

MR. KIRKWOOD: So, that is something you -- as frequency coordinator for a given group of channels -- can say to a licensed user: "You are radiating further than you need to. Drop your power down"?

CAPTAIN SAIIA: That's right. At one time, every policeman thought he should be able to talk to his cars if he had to drive someone to New York City. We convinced them that there is no longer that need. They have to cover their own areas, and they have to use some other method to cover beyond their respective jurisdictions.

MR. EMMONS: The problem I have with that, however, is, in some cases I have to do timely radio surveys, etc., to now actually prove to the coordinator that I need more power because of -- whatever. Okay?

MR. KIRKWOOD: To get through the junk.

MR. EMMONS: Well, it's not really to get through the junk. It's just propagation. I mean, when you are talking to a walky-talky in Allentown from Freehold, that's a pretty good haul. When that walky-talky goes inside a building, now, all of a sudden, it doesn't hear the base station any more. That is a problem. There are many ways to correct that problem. One is by multiple transmitter sites, which are very costly, and there are some other methods. Presently, we are looking into some other methods to help solve that problem. But, in general, it is difficult for 100% coverage in a countywide system. In a one square mile system, why do you have a 100 foot aerial and a 5.2 DB gain antenna? This probably goes over all of your heads. But, basically what I am saying is, why have such a powerful, tall system to talk to one square mile, when the antenna, right about here, would be sufficient, for instance, to cover the Borough of Freehold, where you are now.

MR. MILLER: Tom, I think we have to say, in all fairness -- and I think you would agree with this -- if we are talking about the police frequencies, which are coordinated by Captain Saiia's group, that you are right. They give them what they feel they need for the job. They give them what they need to cover. I think they do a very efficient job. If you need more, they are willing to talk.

But, when it comes to special emergency, that is not the case. They basically get just about anything. When it comes to fire, the same rigidity is not there. So, I think when we talk about coordinating frequencies and ERP -- and that is part of it, height, antenna, and all of that -- it perhaps is done very efficiently with some coordinators, but with some other groups which are given that function by the FCC-- They do a pretty lousy job.

LT. COLONEL FIEDLER: Perhaps it should be our function to get them to straighten that out.

MR. MILLER: Would you agree with that, Tom? Would you basically agree with that?

MR. EMMONS: Yeah, I agree with everything you said, except-- What the track record of the coordinators was before October 22 is one thing, but what it will be after that, we don't know. I have no experience with that, realizing that the FCC has just completely rewritten the coordination rules. Now when you go to apply for a frequency in the public safety services, you have to go to a coordinator, whoever it may be. And, when you go to the coordinator, the coordinator has to make a recommendation on the frequency that you are going for, or make a recommendation of a frequency, or deny the frequency.

MR. MILLER: But, police and local government basically haven't changed. Their frequency coordination is pretty much the same.

MR. EMMONS: Well, it's better.

MR. MILLER: I think what you are saying is, "We are hoping that the coordination process with fire and special emergency will be more like it is with the police and local government coordinators."

MR. EMMONS: Yeah, I wish it were. But, see, we are very unique in this State, again, in that we have the services of Norman Koltry (phonetic spelling) who is an engineer, and prior to that, Jim Versugula (phonetic spelling). They were

the frequency coordinators who worked with the State Police under Marty Vickey (phonetic spelling), and now with Joe. They understand radio. They understand what is really needed. These are engineers who are truly attuned to the needs and the technologies that were present at each point in time. Most coordinators -- or local coordinators -- were not engineers, and maybe did not have the true capability of doing that.

Now, under the present rules, there is only one frequency coordinator, let's say, in the police radio service, and that is APCO; not Norman Koltry, but APCO. It just so happens that APCO, through its research, its surveys, and its needs, has determined that the local coordinator is the only one who can look at the local system and determine truly what the needs are, and also determine what the special situations are that justify a difference of approach, or a different need. Because we are lucky to have this particular group in the police and local government, I think our powers are lower and our ability to get along with our neighbor is much easier than if we were in another fire service, as Bob was saying before.

This whole question is very, very complicated. It is not something that is easily understood, especially to the layman who isn't involved, and doesn't have any experience.

ASSEMBLYMAN MAZUR: Like me.

MR. EMMONS: Yes, sir.

MR. MILLER: You just get the bills passed.

MR. EMMONS: A lot of it is probably boring, but--

ASSEMBLYMAN MAZUR: It's not boring, but sometimes it is a little confusing because I can't follow the acronyms and the jargon.

MR. EMMONS: Yeah, I understand that. I have tried to stay away from that, but it is hard to educate someone about radio in a very short period of time, and it's kind of hard to understand it. I have seen many situations where people have

said, "Well, this radio doesn't work." They have had their antenna -- let's say, hypothetically -- at 400 feet, and they would be trying to cover one square mile. Well, the problem is, the antenna is talking over top of everything, and none of the power can get to the antenna. Now, that is a true life situation; that happened. Okay? Yet, if they put that antenna down at 100 feet, or 50 feet, it would have covered that town. I don't know; it's a strange world.

MR. KIRKWOOD: Mr. Chairman, I think that is a point that needs to be shown someplace in the record, and I am glad you brought it out for us, Mr. Emmons. But, the average user of radios in public safety is a non-technological person. Some of the high-tech options, in fact, some of the reasonably low-tech options that are being made commercially available now, are creating problems in the services because they are not sufficiently user friendly. They are a little more complicated than the radio we have worked with for the last 10 years, and the squad member or the paramedic to whom the radio is an adjunct, rather than a primary tool, wants only to be able to pick up a microphone and communicate with who they need to communicate with.

ASSEMBLYMAN MAZUR: They just want it to work; they just want to talk.

MR. KIRKWOOD: Exactly. If lots of switches, buttons, typing, etc. are required, then you are defeated in another way, because you don't use the tool.

MR. EMMONS: The Lieutenant Colonel talked about data. That means it has to be typed. Well, I can't type very good, but I can talk real well. (laughter)

LT. COLONEL FIEDLER: Let me make a point on that, though. The data you can use in these kinds of applications, the hand-held terminal, which brings up three or four matted messages, when you may only be typing in one word or one number-- The medical ones would say, "Blood pressure," and you would just hit the blood pressure--

MR. EMMONS: I can say that there are many first aid squads in this county, and throughout the State, that could not afford to purchase one of those, because they have all they can do to maintain the old radios that are 20 years old in their vehicles.

LT. COLONEL FIEDLER: It may be the function of the State to have to step in and do something about that.

ASSEMBLYMAN MAZUR: Well, you know, that is another question. The whole thing is a serious point. I think we have raised some areas of concern here about some things that perhaps can be dealt with, without having to go to the FCC. There is the question of the antennas. What did you call it, attenuation?

LT. COLONEL FIEDLER: Yes.

MR. EMMONS: That is the reduction of power.

ASSEMBLYMAN MAZUR: That is a little more jargon. It took a few moments for me to catch up. The training of personnel in radio, you know, general programs-- I mean, we train, let's say, EMTs. Maybe some few hours on radio technology could be added to the training curriculum, that the other commission is looking at. Steve?

MR. SOLOWEY: I just have one question for Tom. The system with the JEMS plan that was made up for New Jersey-- Do you see where it would be useful to make one up possibly for the fire service, since there is one for the police?

MR. EMMONS: To be honest with you, no, because if there is any reflection on the JEMS plan-- I don't think it will work. There are only 21 frequencies, and the way they are utilized now-- There would be no way to reorganize the high band system. The only new and fresh thing you could do in that system with, for instance, fire communications, is establish a UHF TV system, and let it go, and use that with a viable plan -- a new spectrum, a good plan -- and have the FCC -- the Federal Communications Commission -- recognize that plan. That

is the important thing. You can have any plan you want, but until the Federal Communications Commission recognizes it, it is not worth the paper it is written on.

I do disagree with-- Let me correct that. There is a shortage of resource, the resource being spectrum, or channels, available to communicate on. That is the problem. All the training in the world will not change the shortage. It will not relieve anything. Us being where we are, in a densely populated area, the only relief is new spectrum, and new plans. If we had the UHF channels, I'm sure that over a period of time many of the communication problems that exist today may not exist in the future.

Yes, training is an element which I strongly recommend, not only to police services and fire services, etc., but to all the public safety radio services which utilize these volunteers and paid professionals.

I just want to explain something to you. I am a communications technician by training, and I am a graduate of an electronics school. I started as a communications technician in 1969 with the County of Monmouth. Prior to that, I was an engineering aide with Frequency Engineering Labs in Farmingdale. So, I do have some technical background.

ASSEMBLYMAN MAZUR: Are there any other questions for the witness, or comments otherwise? (no response) Well, we thank you very much, Tom.

MR. EMMONS: You're welcome.

ASSEMBLYMAN MAZUR: Now, has all of this perhaps stimulated some thoughts in some of the other potential witnesses out there? Would anyone like to add something, or tell us some accounts of problems you have encountered? (no response)

We have heard nothing at all about the inability of, let's say, ~~police and fire equipment to communicate one with~~ the other, outside of their particular jurisdiction. Has anyone here ever had those problems? (no response) Steve?

MR. SOLOWEY: May I just ask a question of the gentleman who was up here before?

ASSEMBLYMAN MAZUR: Mr. Schultz?

MR. SOLOWEY: Yeah. Are you from Perth Amboy?

MR. SCHULTZ (speaking from audience): Yes, I am.

MR. SOLOWEY: Can your fire people talk to the police? Can your first aid squad talk to the police? You know, do you have that capability back and forth?

MR. SCHULTZ: Our Fire Department operates its own radio system. They cannot communicate with either police or first aid. Our first aid squad carries both a squad radio and a police radio. There is a definite need for intercommunication between the first aid and the police. That need is negligible when it comes to between fire and police. We can pretty well cover that with their land line communication between the dispatch centers.

MR. MILLER: We were talking before, Mr. Schultz, about if you had any specific recommendations. Maybe you can think of some that the discussion triggered.

MR. SCHULTZ: Recommendations as far as--

MR. MILLER: Anything -- any suggestions you have -- anything we could do, perhaps, to improve it, or any recommendations we could make.

MR. SCHULTZ: There is nothing I can think of. As one gentleman pointed out, you are really locked in because of the extreme amount of traffic in the State.

MR. MILLER: How about-- As an example, would dedicated spectrum for EMS help?

MR. SCHULTZ: Probably, but the next question you are going to face is the money. Who is going to buy all of these new radios?

MR. MILLER: Sure. Thank you.

MR. SCHULTZ: That is the biggest thing that faces us. Even for my squad to come up with full JEMS capability,

there is a question of money, since we had our system before JEMS was put into place.

ASSEMBLYMAN MAZUR: Have you ever had any major disaster or anything in your area, where units were called from many different areas of your county, or--

MR. SCHULTZ: Oh, yeah.

ASSEMBLYMAN MAZUR: You have had them, right. Now, was there any--

MR. SCHULTZ: We do that quite regularly.

ASSEMBLYMAN MAZUR: Were there any difficulties, let's say, such as there were in the Passaic fire, where fire units came from some distance, and nobody could tell them what to do because they weren't able to communicate?

MR. SCHULTZ: Fire communication in Middlesex County basically is-- Everybody is on one frequency. We get very -- oh, I don't know -- frazzled tempers, and such, when everybody is putting in the radio test, and that type of thing. But, as far as a mutual aid situation, it works out great because almost everybody coming in is on the common frequency. As far as first aid squads go, if we get into a situation where we need multiple ambulances, most of the time we are talking about a localized area. You can bring your ambulances into a staging area, and send them from there. "Okay, from here you go down two blocks, and they will have your patient waiting for you."

We have not found that much of a need for cross communications. Where we have found a need, we have been able to cover it up by working through a JEMS system. So, that pretty well covers us. Almost everyone around us has a JEMS radio, which gives them a common frequency. We are the little lost child in the middle. We are the only squad in our area-- I think we are the only squad in our area which does not have JEMS radios. Our primary dispatch frequency is the same as JEMS. ~~All we have to do is take our microphones off their clips,~~ and we are on an open frequency. We can hear everything

that is going on on JEMS. We can't talk into a JEMS radio, but if they go on an open channel, then we can intercommunicate.

MR. SOLOWEY: Are you saying that for the entire county -- Middlesex County -- you have solely one dedicated fire channel?

MR. SCHULTZ: There are others which are in use. Going back years and years ago, there was one dedicated fire channel, and almost everybody had that. Now, as departments advanced, they got second frequencies. Almost all of them are on low band.

MR. SOLOWEY: Okay, so that is basically a mutual aid type channel.

MR. SCHULTZ: Basically. There are a lot of departments that have that as their single frequency. The more advanced departments that have gone to multiple frequencies still keep that one in there, since they are still on low band. So, it does come out to a nice system -- sort of accidentally, but it's a nice system.

MR. SOLOWEY: Thank you, Mr. Schultz.

MR. MILLER: Mr. Chairman, I see three heavyweights out there as far as communication vendors -- I guess three of the heavyweights who beat the bushes. One is one of the large vendors in the State. I would like to invite any one of the three of them to come up to give us any testimony relative to the problems, or any suggestions they might have. They are probably going to start talking about trunking, but I won't guess what they might like to say.

MR. KIRKWOOD: Perhaps while the gentleman is coming up-- I read an article last evening about a multi-day fire emergency in Atlantic County.

ASSEMBLYMAN MAZUR: A multi what?

MR. KIRKWOOD: A multi-day -- several day -- fire emergency in Atlantic County, which involved some 40 or 50 different fire companies, 30 or 40 emergency medical service

organizations from South Jersey, the State Police Emergency Management folks from Hammonton, and five field communication units. All five field communication units were necessary to keep all these hundreds of fire fighters, dozens of EMS providers, and emergency management support communicating with each other. If the article was accurate, the only way it was resolved was when the State Police provided 20 common frequency portable radios, so that the commanders in charge of all the various agencies could talk to each other on a dedicated channel.

Incidents like that do not happen very often, but it is nice-- It is sad to know we need it, but it is nice to know there is someone who has enough stuff to put everybody together at the scene of an emergency like this.

LT. COLONEL FIEDLER: The scary part of that is that you can only handle about one at a time.

MR. MILLER: Good evening, Mr. Krueger. I don't know if you remember me, but when John Meyers used to work for you, I used to work for John.

EDWARD KRUEGER: Right.

MR. MILLER: That was a long time ago. Perhaps you would like to introduce yourself.

MR. KRUEGER: My name is Ed Krueger, the Eastern Vice President of Motorola. I have been in the public safety communications business since 1947. I don't like to give my age away, but I guess that does.

The gentleman from Monmouth County said he didn't hear people complaining about interference. I would give you my word, I hear them every day. As a vendor for the whole Northeast, there are a lot of complaints. We can all go through stories about all of the problems -- interference, actually some life and death messages stepped on, when nobody gets through -- and I think we could go on here for days trying to fix up dispatching, local usage, and so forth. But, the

real problem is, there are just not enough frequencies. It's pure and simple.

Now, there was just a block added in the fall of last year. The public safety ones are not available yet; they will be shortly. According to our surveys, within two years, in the Northeast, those frequencies will be gone. The only way you are going to get more is by going back to Congress, pounding on the door real heavy, with the Senators and Representatives from New Jersey, and demanding more frequencies. That is the only way you are going to get them, because the FCC is really a political entity.

I have been in the business for a long time. There has never been enough frequencies. We have gone and split channels, and made more. We have added bands, from low band to high band, from UHF to 800 megs. It is my personal feeling, as a resident of New Jersey, which is a heavily populated section of the country, that unless you do something -- and I am speaking as a resident now -- you are never going to have anything.

In the triangle -- or it is a little bit more than a triangle -- from Washington through New York to Boston to Buffalo to Pittsburgh and back to Washington, there is over 30% of the country's population. Where the frequencies are adequate in other parts of the country, they are just not adequate here.

We have also developed other techniques; some digital, as the Colonel was talking about, and some trunking. Trunking is becoming very effective. All of those frequencies are going to be gone shortly.

It takes a long lead time to get any. So, my only suggestion would be to start now. Get Congress involved. That is the only reaction you will get.

Besides that, I will entertain any questions. Otherwise, we could go on trying to fix up cosmetic power

limitations, ERPs -- effective radio powers -- common dispatching, and so forth. That will not really solve the basic problem. With that, I would answer any questions you might have.

ASSEMBLYMAN MAZUR: Do you have some questions?
(speaking to Lt. Colonel Fiedler)

LT. COLONEL FIEDLER: No, no question, but I would like to make a comment.

ASSEMBLYMAN MAZUR: Sure.

LT. COLONEL FIEDLER: Even the Congress cannot repeal the laws of physics. Therefore, we have to get more out of what we have. The radio frequency spectrum is just what it is. I would love to have more and that is one of the answers, but I don't know how practical it is to get it.

MR. MILLER: Well, I think Mr. Krueger said it all, quite frankly. We could sit here all night -- all month. I think he said it all.

LT. COLONEL FIEDLER: Absolutely.

MR. MILLER: I think the fact that there is frequency -- as Mr. Emmons said before, and as Captain Saia alluded to -- in TV, in the TV UHF--

LT. COLONEL FIEDLER: Absolutely.

MR. MILLER: --whether it is TV sharing, or repacking, or whatever-- As said before, every channel is 240 frequencies, or 120 pairs.

LT. COLONEL FIEDLER: I have been viewing-- Oh, I'm sorry. (apologizes to Mr. Miller for interrupting him)

MR. MILLER: Efficiency is going to help, but we have a horrendous problem. That may make the horrendous problem a bad problem. That is probably the best it is going to do for us.

LT. COLONEL FIEDLER: There is no question that what you say is right. The problem is, I don't share your optimism about those TV channels.

MR. MILLER: I didn't say I was optimistic. I said, "I think it is probably the only way."

LT. COLONEL FIEDLER: See, we in the military have faced that problem for the last--

MR. MILLER: You guys have your own frequencies.

LT. COLONEL FIEDLER: For the last 30 years, at least since World War II.

MR. MILLER: With all due respect, I think we wish we had your problems.

LT. COLONEL FIEDLER: That may be. But, I am trying to put myself in your shoes. I am trying to help you with your problem.

MR. KRUEGER: I have seen times when they ran out of frequencies, too, but not as often.

LT. COLONEL FIEDLER: Yeah, absolutely.

MR. KRUEGER: My own feeling would be, the only available ones now would be the UHF sharing. Someone asked the question, "Do you think there would be enough left for entertainment?" I personally feel there is too much left for entertainment. Public safety comes first.

LT. COLONEL FIEDLER: I agree.

MR. MILLER: You know, it is kind of interesting--

MR. KRUEGER: I have to make sure you understand.

ASSEMBLYMAN MAZUR: Certainly, judging by the character, the entertainment of the group--

MR. KRUEGER: I am speaking as a resident of New Jersey, not as a Motorola representative.

MR. MILLER: I think it is interesting, we have been fighting for years and, all of a sudden, guess what? They released a whole bunch for cellular. Remember before we had cellular? Now when I see all these TV stations on the air selling -- you name it -- you know, you really have to wonder. We have one down in our county; it's down in Woodstown. I don't know how many people watch it, but, boy, we just think of that thing sitting there and gobbling up 240 frequencies on--

LT. COLONEL FIEDLER: They sell cuckoo clocks.

MR. MILLER: Yeah, you've got it; they sell cuckoo clocks. And, it wasn't there before.

LT. COLONEL FIEDLER: Sure.

MR. MILLER: And, there are a lot more like it being held.

MR. KIRKWOOD: A question, Mr. Chairman.

ASSEMBLYMAN MAZUR: Yes?

MR. KIRKWOOD: For those who are involved in the politics of public safety and other frequency allocation, why is it that they got it and we didn't? Are we not as effective lobbyists? Are we not as well organized? Are we too fragmented? What should we do to get our share of the next pie that is going to get handed out?

MR. MILLER: They've got briefcases.

MR. KRUEGER: We could probably talk as much about that as about interference. If there is nothing else, thank you, gentlemen.

ASSEMBLYMAN MAZUR: Mr. Emmons?

MR. EMMONS: Are you not effective lobbyists, was the question, I believe. Yes, but there has been a problem over the years. APCO, I think, was probably -- on a national level now -- the agency that got through Congress the fact that, "Hey, guys, we've got a big problem here, and public safety should be number one." And henceforth that happened. Relief on spectrum is needed right away, and I think a lot of UHF channels would solve some of the problems. But, as the Colonel says, "You've only got so much. After that, there ain't no more."

Well, that is why I say if there are channels to be released, that this Commission should recommend that a plan be developed, so that -- similar to the JEMS plan -- these new frequencies could be utilized in New Jersey the way the public safety agencies need them to be utilized. I think that is the primary concern.

Digital communications-- We were talking about that before. I went out to get a glass of water, and I realized that something was awful funny. I could see the fireman up there looking at his digital communicator, trying to figure out what floor he was on, and he couldn't see it because of the smoke.

ASSEMBLYMAN MAZUR: A point well taken.

MR. EMMONS: One thing I didn't get into is technology today. Are all of you aware of the fact that the City of Phoenix right now has computers on their fire trucks? When they go to a fire, they actually have the fire hydrant layout on their screens so they will know where they are. They may even have in there the layout of the individual building. Not only that, but the hazardous materials in that building. That is the City of Phoenix. That is the technology they are using today.

So, that data system is vital for their needs. It has done a great deal. Technology today is starting to run away with us, and yet here we are with the same amount of spectrum. But the needs are constantly getting more because, number one, 10 years ago, who ever heard of hazardous materials? Yeah, DDT. Yeah, that was a hazardous material, but look at what has happened to the hazardous material. Now, everything is a hazardous material, and with good concern.

The needs of the public safety community, based on just hazardous materials, has grown -- the management of that. I can see a lot of reasons why data communications being the transmission of a hard message from one point to another far outweighs the need for a voice communications channel, but it is another channel that we just don't have to utilize.

LT. COLONEL FIEDLER: There are techniques available that allow you to do these things. We can go into the technology.

MR. KIRKWOOD: A question for you. There are some-- I know in the far north, in Bergen County, there are -- I don't know a generic term for them, so I am going to have to use the vendor's proprietary names-- Some of the EMS units use what they call MODATs, where rather than talking, they hit a button that sends some sort of a digital message from the unit. I know the Hackensack EMS units use them, but I don't know that they are very common around the State.

MR. EMMONS: What was your question pertaining to the use of them?

MR. KIRKWOOD: Why don't we see more of them?

MR. EMMONS: Why don't we see more of them?

MR. KIRKWOOD: Yeah.

MR. EMMONS: They are cost prohibitive. The first aid squads out there can't afford them, and an individual local government entity can't afford a system like that.

ASSEMBLYMAN MAZUR: That part of Bergen County is relatively wealthy.

MR. EMMONS: That is one reason.

MR. MILLER: Perhaps it is even deeper than that, because I think you can get status now for -- and the folks from Motorola can correct me -- but I think you can get it for a vehicle for \$400 or \$500 today -- somewhere in that neighborhood. I think it is more of a whole organizational approach. You know, maybe a squad could be convinced that pushing a button saying they are responding and arriving is so much quicker and so much more efficient-- Maybe they could be convinced to spend the \$400 or \$500, but you've got to have the other end. You have to have the dispatch. You have to do something with that data.

MR. EMMONS: There is another problem with that. Oh, I'm sorry I interrupted you.

MR. MILLER: Well, I am not saying there aren't problems with it, but I think that perhaps if everyone was

organized, but a lot of people choose, for their own reasons -- and I am not prepared to argue the case either way -- but a lot of them choose to stay alone, and when you stay alone it is more difficult to have these types of features.

MR. EMMONS: An example would be-- Let's say we have a prepackaged button. If I press it, it tells a dispatcher that I am the ambulance driver and I am going into service on the call that they dispatch me for. So, I press a button, and it says my ambulance is in service. What does that mean to the dispatcher?

MR. MILLER: I am not talking about that; pressing a button saying you are responding, pressing a button saying you are on location, pressing a button--

MR. EMMONS: Yeah, but what I am saying is, what does that mean to the dispatcher -- that you are in service? What does that mean to the dispatcher that you are on location? Are you at the right location?

MR. KIRKWOOD: Now you are talking about procedures.

MR. EMMONS: Oh, but you're saying that the world of technology, by pressing a button, you could reduce the amount of transmission time. That is what I am assuming. Now we are turning around and saying-- I'm saying to you, now we have a situation where the ambulance is in service, but it went to the wrong address because they didn't verbally confirm or provide feedback to the individual dispatcher, allowing him to recognize the fact that they were going to the correct address. Now, I have seen that happen more times than I care to talk about.

LT. COLONEL FIEDLER: And then you have your voice radio to fall back on in case you have--

MR. EMMONS: Not if you are using MODAT as a primary source.

LT. COLONEL FIEDLER: It depends on the technology you employ. You can employ-- Voice radios carry digital data, and you always have the voice radio capability to fall back on.

MR. EMMONS: Oh, absolutely. That is this particular data processing. But, I am just trying to show you--

LT. COLONEL FIEDLER: That's what--

MR. EMMONS: --some fallbacks in that.

LT. COLONEL FIEDLER: That is what, in fact, the Army does. We run digital data over our combat networking screens. Then, if I can't understand something for some reason, I go on the voice radio and get it enforced.

ASSEMBLYMAN MAZUR: I just wonder if our stenographer is getting all of this cross fire here. Are you? (addressed to hearing reporter) (no response)

I think the points have been made both ways. There are costs and there are benefits.

LT. COLONEL FIEDLER: Absolutely.

ASSEMBLYMAN MAZUR: Trade-offs.

MR. EMMONS: Are there any more questions of me?

MR. KIRKWOOD: Since you are an APCO leader, and since there is a bunch of them here in the room, an observation over 15 years of fire EMS experience relating to our effectiveness as lobbyists for our cause. Recognizing right up front that APCO has taken the ball and run with it, where nobody else that could cover the spectrum of organizations really has-- APCO is an organization of professional communicators. Its size is limited by the number of professional communicators there are. Not once in 15 years have I seen anything come to the squad building or fire house that said, "Here is the battle that APCO is fighting on your behalf. Write a letter to this guy about this. Write a letter to this Congressman saying that we need more spectrum for this."

Now, I see it in APCO journals. I see the word passed from communications professional to communications professional, but fire departments and squads are essentially the buyers of your service. You know, we depend on you for our public safety communications. In turn, we are obligated -- if

we know about it -- to fight in the halls of Congress, the State Legislature, and so on, for the things you say you need to give us the communications that we need. That might be a message that could go back to the State and national leadership, that-- We have 17,000 members in the State of New Jersey. There is at least an equal number of fire fighters and some number of police officers who are also voting constituents of someone. If there is a battle to be fought and channels to be grabbed from the TV industry, or whatever other political changes we make, I ask that you let us know about it, so that we can go forth and put our names on paper where it will make some difference, because there are not enough of you guys to do it all yourselves.

MR. SOLOWEY: I don't think most volunteer fire departments would know what to do. I really don't. I think if you, or whoever-- If APCO sent a volunteer fire department a letter -- maybe I'm wrong, but I have been in a volunteer fire department for over 20 years, as a member-- First of all, they wouldn't know who the heck APCO was, and second of all, they would not take the initiative to sit down and write the letter. I am speaking volunteer-wise.

MR. EMMONS: Yeah, that's true. I hate to disagree with-- The intent is great -- okay? -- but to push the volunteers to get them to back anything seems to be a big problem. I think tonight demonstrates this, to some extent. There is nobody out there but a few of us -- okay? -- number one. Number two, I really perceive that the individuals out there think that no matter what they said here tonight, it will not change anything. At least that was the comment that was made to me by someone here. Okay? I kind of agree with that, that the average fireman or first aider probably would say, "Well, this Commission can't do anything about it. Nobody is ever going to be able to do anything about it."

MR. KIRKWOOD: That may be the present belief, but I am a professional manager of volunteers in my job. One of the things I do is organize and train volunteers who belong to my organization -- the American Heart Association-- I teach them, and inform them, about legislative issues that pertain to our cause, and when it comes time to fight the battle, I have a network I can communicate to, and I say to them, "Here is the model letter. Take this and write it on your stationery. Put your name at the bottom of it, and I promise you it will make a difference."

Not all of them respond, but more of them respond than would if I just wrote the letter myself. If there is a chain of apathy with regard to public safety communication, the fire fighter, the EMT, the police officer on the street, feels like no matter what we say nothing will change, and you have to break that at some point. You guys are the ones who know what is going on. You are the experts; you are the leaders; and, you are the ones with the initiative to run it. We can't help if we are never invited. Not enough of us read the APCO journals and know we are supposed to write to Senator Lautenberg about a certain issue. The treasury may not allow it, and you may need, for example, to call me to use my resources on a given issue. But, if we don't try, it will never happen. I will spend my share on postage stamps, and I am sure the First Aid Council and the fire fighters will, too, to give it a try. We have to be the enlightened leaders, or no one is going to.

So, let us know.

MEMBER OF COMMISSION: I can generate at least a dozen letters.

ASSEMBLYMAN MAZUR: Okay. I don't think you have a response coming to you.

MR. EMMONS: I am not going to touch it.

ASSEMBLYMAN MAZUR: Well, unless there is anyone else who has some last thoughts, or anyone who wants to make a statement or any observations, I think we will close the public hearing section of this.

(HEARING CONCLUDED)

