FEDERAL COMMUNICATIONS COMMISSION

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PUBLIC SAFETY NATIONAL COORDINATION COMMITTEE

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GENERAL MEMBERSHIP MEETING

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FRIDAY,
SEPTEMBER 20, 2002

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The Committee meeting commenced at 9:30 a.m. in the Commission Meeting Room, 445 12th Street, S.W., Washington, D.C., 20554, Kathy Wallman, Chairperson, presiding.

COMMITTEE MEMBERS PRESENT:

KATHY WALLMAN	Chairperson
CHARLES JACKSON	Member
TIMOTHY LOEWENSTEIN	Member
HARLIN McEWEN	Member
STEVE SOUDER	Member
ROBERT SPEIDEL	Alternate for Member Hofmeister
MARILYN WARD	Member

ALSO PRESENT:

MICHAEL WILHELM	Designated Federal Officer

C-O-N-T-E-N-T-S

P-R-O-C-E-E-D-I-N-G-S

9:39 a.m.

CHAIRPERSON WALLMAN: Welcome to the meeting. Please do not forget to sign in, so we have a complete and accurate record, in conformance with the Federal Advisory Committee Act.

I am sure all of you are aware of the enhanced security procedures. Just please be observant of those as you may need to leave the room from time to time during the meeting.

Before we get to the reports of the Subcommittee Chairs from yesterday's meetings, we are going to hear from two speakers. John Oblak has some news about some significant progress that TIA has made in developing a standard for the wideband interoperability channels. Then Sean O'Hara is going to tell us about some important work that is going on in connection with optimizing channel assignments made by the Regional Planning Committees.

Is John in the room? Where is he?

John Oblak is no stranger to the NCC.

As a matter of fact, I think he's a candidate for the coveted perfect attendance medal. John is a Chief Engineer at E. F. Johnson that manufactures, is one of the lead players in the public safety communications equipment business. He is also a recognized expert in the intricacies of setting industry standards.

John has been the Chairman of TIA's TR8.1 Subcommittee on Measurements for 16 years. Currently, he's the Chairman of the TR-8 Engineering Committee for Private Radio.

So thanks very much to John and his Committee, TIA is on the threshold of recommending a 700 MHz wideband data standard.

John, we are eager to hear from you this morning about progress on this important issue.

MR. OBLAK: Yes, thank you very much. What I would like to do this morning is to update us on the status of where TR-8 is in the formulation of wideband data standards. We have some recommendations to bring, one in particular, to this Committee, based on work that we have done. We want

to update you on the progress of where we are in the document suite.

At the previous meeting, TIA brought several recommendations to this body. One was that we recommended for interoperability a single bandwidth selection of 50 KHz. We also recommended a single modulation-type, being our mid-level modulation or 16 QAM. Both of those recommendations were received by the Technical Committee, by the Interoperability Committee, and the Steering Committee with some reservation, we understand, but they were approved.

Today we're going to bring up an additional recommendation. As you recall, at the last meeting we said that there was still a decision to be made, and that was the decision on the physical layer standard, whether it would be scaled or advanced modulation sound or IOTA.

TIA has discussed this issue, looked at the merits of each, and has agreed to bring the recommendation to this body that the SAM, Scalable Advanced Modulation, be the interoperability

standard for the wideband data portion, the interoperability portion of the spectrum. So we make that recommendation.

I would also like to update us a little bit on the schedule of the progress that we have been making. There are some 10 documents we believe that represent interoperability on wideband data, and TIA is making progress on all of these.

As you see from the schedule, it's a fairly busy chart, but we have all of the documents basically approved by TIA and approved for publication by the March timeframe, and I'll be a little more specific in the next few slides.

The status of the August TIA meeting last month, if you notice the color code, those blocks that are in -- each block represents a standard or a document -- those blocks that are in green represent documents that have been approved for publication, and, in fact, many of them are at this time published.

We have a few documents, one document in particular that was in the ballot phase. That is in

purple. Several documents, three of them, in the drafting phase, and a couple, three documents actually, that had not been started as of August the 8th.

We move into the October timeframe. We have a TIA round of meetings in two weeks. This is where we expect to be in the October timeframe. Again, we'll have the four documents published. There's a fifth document, which is the physical layer IOTA. We hope to have that also approved for publication, although that is not one of the interoperability standards.

So if you look at the three columns of documents, the column on the far right, the IOTA, the two documents there are not part of the recommended interoperability standard.

Nonetheless, there will be five documents published. We'll have four more in the ballot phase, three of them in the drafting phase.

We project, as we go on into the January timeframe, which is our next round of meetings, there will be nine documents published, approved for

publication. That will include eight of the ten documents that we feel represent the standard suite for interoperability. Then there will be two that will be in the ballot phase as of January.

Again, projecting forward, by March, we believe that all 10 of the documents will be completed and approved for publication. That includes also the two IOTA documents, even though they are not part of the interoperability standards suite.

So, in summary, I would like to say that we feel that the project is essentially on schedule. We have one document that is perhaps slipped a few months from where we had initially said at the last meeting. However, we feel that we are on target for having all of the documents approved for publication by the March timeframe.

As I have said, four documents are currently approved for publication, and they represent the SAM physical layer, the SAM channel access coding, the MAC RLA, layer documents, and the logic and control documents. Four additional

documents projected for approval by January, and all ten of the documents complete by March.

That's the conclusion of my presentation. I would be glad to take any questions.

CHAIRPERSON WALLMAN: Any questions from the Steering Committee?

(No response.)

Any from the audience?

(No response.)

Well, thank you very much. We're very grateful that the project is in such good hands, and the organization and the flow that you described in the presentation give us a lot of confidence that we're going to get where we need to go.

MR. OBLAK: Thank you. Thank you very much for the opportunity to present this to you.

CHAIRPERSON WALLMAN: Thank you.

We're going to hear next from Sean O'Hara. One of the biggest challenges faced by the RPCs over the past several years is ensuring that their channel assignments represent an efficient use

of the spectrum.

As the 700 MHz RPC process goes forward, the committees are going to have access to tools to facilitate an efficient designing process. Much of the work to develop those tools has been done by Syracuse Research Corporation, where our next speaker, Mr. O'Hara, is employed as a Research and Communications Engineer.

Like Mr. Oblak, Sean is active in TIA's TR-8 Committee. He is in the process of completing his master's thesis at Syracuse University, where he received an undergraduate degree in electrical engineering with honors.

Sean is going to speak today on what he described in an e-mail to us as "Notional Contouring Strategies for the Pre-Allotment Pool." I'm sure that we will get a fulsome explanation of exactly what that means from Mr. O'Hara.

(Laughter.)

I mean, I could explain it if I wanted to, but --

(Laughter.)

MR. O'HARA: And me, too. Actually, I am going to go into a lot less detail than I have in the last couple of days on this. I am going to kind of give an overview of the whole process of what we're doing and kind of a status report and an overview of the methodology that we're employing to generate these pool allotments.

First off, there's a need to populate this NPSTC NIJ 700 MHz pre-coordination database with pool allotments. These pool allotments are going to be what are generated over the general use channel sets. What they are there for is to provide a starting point for the Regional Planning Committees to handle applications that come in, so that they already have pre-assigned pools of frequencies that are pre-coordinated to work with each other.

Each pool is going to cover a defined geographic area. This can really be done right from the start. When we're generating these pool allotments this time, what we can do is use relatively complex models. Because of that, we can

achieve a lot better efficiency and a lot better accuracy and a greater measure of fairness.

In the past a lot of the regions were able to do a lot of their work rather quickly, and some of the regions were a little behind in it. As a result, there were many people who felt that there was not a lot of assignments left, particularly along the borders when things came together after several years.

So we're trying to mitigate that and make sure everybody feels like this is done fairly this time. We also want to maximize the spectrum re-use by taking into account things like terrain instead of packing circles and things like that, and provide a more accurate gauge of where the interference conflicts would be.

Why nationwide? Well, there's 55 Regions nationwide, and they're of all shapes and sizes. Adjacent regions really are going to require fair channel-sharing along their borders, and that should be based on nothing more than the local user demographics that the pools will be based upon. If

everybody understands that these pools were fairly developed, it really helps expedite interregional planning, especially along those border areas.

Packing on a national basis, it is obvious that it maximizes the channel re-uses. The Regional Planning Committees do an excellent job of optimizing the channel re-uses within the region as they handle applications that are coming in, but operating pretty much independently of each other, they do not generate any kind of optimal pattern across the country.

The only way to do that is to really look at this problem as a national problem and optimize the frequency re-use on a national level, because every assignment has a ripple that spreads quite a long ways. You know, your co-channel assignment affects another co-channel assignment in a circle around, and then all those -- you know, it is like ripples in a pond that essentially can go over the entire country.

As a result, what you get is everybody's going to get more usable spectrum out of the end of

this, and every pool that's generated is going to be as large as possible based upon spectrum re-use.

These allotments are going to be based on county or county-type boundaries, according to the Census Bureau. Of course, one thing to note is the county area and county user populations are going to vary considerably across the country, and those need to be taken into account. You can see clearly from this picture, as you go from the East Coast to the West Coast, some West Coast counties can contain some East Coast states.

You really need to generate an accurate capacity model, too. Some of the work that has been done in New York State by Bob Schlieman and his consultants has spent a lot of time looking at traffic and capacity modeling, and they're bringing a lot of those types of ideas and concepts, married with a lot of concepts and ideas that were detailed in the PSWIN report together, to come up with some modeling that really captures the essence of what the capacity needs of each one of these counties are going to be. Those will be used to drive some

things during the allotment process.

One of the things we notice is that, although there's obviously radio and traffic hotspots within any state, within any region, and in fact within any county, there's really a disproportionate number of public safety and public service users in the rural areas because you tend to have a higher percentage of those types of services in lower-population-density areas.

One of the most important things that we're doing here is, besides using the county boundaries as setting the limits on where the pool allotments will be applicable over, we're going to introduce a realistic model for interference and re-use. In the past a lot of the planning may have been done using circulars or circular-type boundaries. We're going to use the county boundaries themselves, but not only that, if there's intervening terrain in between two counties and that terrain completely blocks or mitigates the possibility for interference within those counties, then the program needs to be smart enough to know

that, because that's one of the main reasons that it is going to be able to optimize the spectrum re-use of all this band.

If we do that right from the beginning using the pool allotments, then that can kind of ripple through the ensuing regional activities after that.

Sort of the groundrules for these pool allotments, so everybody understands what's actually going to be in the pools, all the allotments are going to be based upon 25 KHz spectral blocks. There are two reasons for that. One is to give as much flexibility as possible for future plans of the counties, and also it doesn't limit any applicant's choice of technology, choice of narrowband technology. It could be 6 and a quarter; it could be 12 and a half; it could be 25. All of those fit neatly into a 25 KHz block.

With the adjacent channel rejections that are mandated within this band, you can certainly still get re-use on adjacent channels if you do your design carefully within your own county

or pool area.

As we discussed earlier, the capacity needs are per, what are called, normalized PSWAC methods, but they're basically more detailed capacity and traffic models that have been developed to try to assign the spectrum fairly according to the use of demographics of each of the areas.

The service boundaries that the pools are going to be applicable over are basically either county boundary, plus a 3-to-5-mile buffer zone, and that 3-to-5-mile buffer zone is going to be based upon the population density or the degree of urbanization of the area.

Some of the NCC Implementation Subcommittee, Appendix O, I believe, has detailed the reasoning behind this, but suffice it to say that in more urban areas the 5-mile buffer is there. So you have more allowable signal strength within your service area to provide for portable and in-building coverage needs.

In more rural areas you don't necessarily have buildings or in-building coverage

needs. So the 3-mile buffer is all that's needed. That two miles does have a significant effect on the ability to re-use that spectrum.

The interference boundary or the interference range from any particular pool allotment, as stated earlier, is going to utilize both the terrain and the county boundary in a measure to try to eliminate or minimize the interference between any co-channel pool assignments.

There are some minimum thresholds that are set. Each county or county-type area that's going to be receiving a pool allotment will get a minimum of four of those 25 KHz voice channels and a minimum of one 25 KHz channel which they could use for a data channel. They'll be getting five 25 KHz channels at a minimum.

Beyond that, the capacity models that were developed will drive assignments until there is no spectrum left. Where there are contentions for spectral resources, those capacity model ratios will determine where the spectral resources go when

things become limited.

Also, throughout the frequency assignment process there will be a hard constraint of a minimum combiner spacing of 250 KHz between any interpool assignments. In other words, any of those five channels that you get for your pool at a minimum and any channels beyond that are going to have a minimum 250 KHz spacing between them for antenna-system-type considerations.

Wrapping up, I'll just give a quick status of where we are at this point. The work has started approximately a couple of months ago, and in strong earnest about a month ago. At this point the capacity models are essentially complete.

I have spent some time this week reviewing them both during the NPSTC and the Implementation Subcommittee meetings, making sure the regional representatives understand how these were come up with and I think, in general, received very positive responses for the models as they have been presented.

The coverage with interference

methodologies are being undertaken right now. I think we've come a long way towards coming to the final solution for how we're going to do that, albeit some minor modifications may need to be made.

We have also spent a lot of time this week reviewing those during the NPSTC and Implementation Subcommittee meetings. Again, I received a lot of positive feedback from them.

A lot of people have said that it is a very good representation of what the actual interference is within their own local areas and regions. Several people have said that they actually, because of the needs in the 800 MHz band, they have been able to be more aggressive and re-use those frequencies even closer than what I have been modeling them to be.

Of course, the pool is just a guideline. Any application that comes into the Regional Planning Committee, it's up to their discretion whether or not they want to grant that assignment at all. So there's always the possibility, with knowledge of detailed site locations, antenna

patterns, radiation control, and those kinds of things, that you can certainly fit as many more channels in there as you can design for.

Copies of the methodology and a very long list of examples of the results are also being passed out to the RPC representatives for additional review. I am hoping to get some more feedback from them over the next week, so that I can actually start the generation.

Once the thing starts, there's an awful lot of computer and CPU time that goes into computing these pool allotments, both the terrain-based propagation models as well as the actual optimization problem itself, which is about 160 channels over about 3500 pool allots. So it's kind of a large optimization problem.

With that, I'm going to wrap this up. Are there any questions at all? Yes?

AUDIENCE MEMBER: Do you assume simulcast?

MR. O'HARA: We don't assume simulcast within the county. We don't assume anything within

the county. The channels that they get within their pool they're able to use any way they want to use it. If they wanted to use them in a simulcast system, it would be easy. If they wanted to use them in a multi-cast system, then they would have to coordinate them accordingly.

MR. ROSS: My name is Joe Ross. I represent D.C. Government, Office of the Chief Technology Officer.

So you could re-use frequencies within a county, if appropriate, in your model?

MR. O'HARA: You could certainly, if you were going to split them into -- you could re-use adjacent channels within your pool within a county if you weren't going to use the 25 KHz blocks. I think if you wanted to re-use them outside of a multi-cast-type design, you would have to apply for additional channels also or work that out with the regional planning body within your application to do that kind of sharing with the regions adjacent to you.

MR. ROSS: And how long is it going to

take you to finalize your analysis? When will I know how many frequencies would be allocated to D.C.?

MR. O'HARA: Okay, there was some confusion about that yesterday. All this is is a pool allotment generation. Any allocation to you is going to be done by your Regional Planning Committee itself. This is given to them as a tool so they can evaluate applications right away and see, based upon interference within their region and to other regions, what channel pools are available to them to use to react to applications that come into them.

So your regional plan is, you know, if we decided that your particular county had a pool that had 12 of these 25 KHz blocks, so to say, in it, you would still put your application into your Regional Planning Committee, and it's up to them what, if any, of those 12 blocks you would get and what, if any, additional blocks you needed outside of that in order to meet your system design you would get.

So all the final decisionmaking and the

final engineering may be somewhat application-specific and will always be done at the regional level by the Regional Planning Committees.

MR. ROSS: But it sounds like your tool makes a recommendation about how many channels should be allocated to each municipality.

MR. O'HARA: No. What it's trying to do is make sure that there's initial pools developed that make it easier for the Regional Planning Committees to decide what's available in any given area. When we have to develop pools, we have to give some kind of measure about how to share the spectral resources across all the pools. Otherwise, it would try to assign the same number of channels, say, to every single county, regardless of whether there's 1500 people or 15 million people.

MR. ROSS: Thank you.

MR. SCHLIEMAN: Robert Schlieman, New York State.

Just I think a point of clarification: The reference to county is not to a jurisdiction, but rather to a unit of area, and any municipality

within that county would be entitled equally to that, according to the RPC rules for the distribution of channels.

MR. O'HARA: Yes, that's correct. The pools are just defined over an area of a county, not a government, not set aside for a particular government.

MR. GILLORY: Ronald Gillory, Houston Police Department.

In our case we have a city that is in five counties. How do we go about modeling that when we go to the RPC with an application?

MR. O'HARA: You're probably in luck because you would be able to probably pull -- you could apply for pool channels that are within any one of those five counties, if you're in fact within all those five counties.

MR. GILLORY: And then if we have interlocal agreements to provide service for other cities adjacent to our city, in the case of, say, Harris County, they have a small regional system that they provide service for, a trunking service

for a number of other agencies within a 60-, 70-mile area of Harris County. So they're actually in the HGAC COG for our area. They provide service for probably 70-80 percent of the law enforcement agencies within that particular council of government.

MR. O'HARA: Again, it's going to be left up to the individual Regional Planning Committees to look at the applications, and in a lot of cases competing applications, to decide out of the pool and outside of that pool what the --

MR. GILLORY: What's the most factually efficient?

MR. O'HARA: Hum?

MR. GILLORY: What's the most factually efficient?

MR. O'HARA: To some degree, I guess that's part of their job, yes. Not only that, but to make sure everybody has a fair shot at the channels that are available in the pool.

Like, for example, if you came in -- and I'm involved in regional activities, you know, as a

consultant really, but if you came in with an application and there was other competing applications, then I'm sure they're going to look at all the applications and put them into some kind of matrix, and look at the loading that every one of the applications is bringing to the table, going to look at the spectral resources that are actually available over the area of interest. Then they're going to make a determination as to how those channels are going to be disseminated.

MR. GILLORY: But that one system comprises in excess of 100 channels and I believe 8,000 or 9,000 users.

MR. O'HARA: And what band?

MR. GILLORY: An 800, and they're looking to expand into 700 because there's additional applications of agencies that want to go become part of that law enforcement network.

MR. O'HARA: Then that's fine, but, again, all the determinations for the final dissemination of these channels, the 700 MHz general use channels, are going to be done by the Regional

Planning Committees. I mean, that is --

MR. GILLORY: The Committee will be able to deviate from the recommendations that you --

MR. O'HARA: Oh, absolutely. These are just recommendations to help them make their job easier. In fact, a lot of regions are really looking forward to this to save them all the work of developing their own internal pools, because it is quite a lot of work to try to determine how you're going to get maximum re-use out of the channels and coexist with all the states and regions around you.

MR. GILLORY: Yes, we know about the work. The 800 planning process, we ended up writing our own computer program for sorting the frequencies on our geographic boundaries.

MR. O'HARA: Well, we hope you like this one, and maybe you'll save yourself some effort this time.

MR. GILLORY: I hope so. Thank you.

MR. McEWEN: Sean, just for the gentleman from D.C., how does D.C. -- they don't have any counties. So, I mean, how is that treated

in this?

MR. O'HARA: That's treated as a separate entity. In fact, there's a lot of -- according to the Census Bureau, there's a lot of county or county-type regions that are more like cities. I think D.C. is one of them, St. Louis City is one of them. There's other cities like that. There's a lot of cities in Virginia that actually have their own county-type status associated with them.

MR. SPIEDEL: I think one of the other problems, too, with D.C., it's part of a multi-state region.

MR. O'HARA: Right.

MR. SPIEDEL: You know, it's made up of northern Virginia, Maryland, and D.C. So I think Joe's bringing up a real valid point of how is all this horsetrading going to go on. But I think it's a good guide. It's just going to try and lay out the pools.

MR. O'HARA: They were purposely not -- you know, the regions are left to their own

discretion because at the end of the day they know what's best for their individual regions.

MR. ROSS: Just to let everyone know how spectrally-deficient we are, we have 5200 radios and portables and mobiles for the MPD, for the Police Department. We have another 2200 for other public safety agencies. We only have 16 800 MHz frequencies, and we have 13 conventional 400 MHz frequencies. We want to put everybody on the same network. We can't find enough frequencies locally to put everybody up on the same network.

We have been pushing Motorola to figure out some way to be more spectrally-efficient within our 16 channels. That didn't work. We've tried everything that we can. We really need spectrum as quickly as we can get it, and we really can't wait.

MR. O'HARA: Yes, I completely sympathize with that. I've been working with New York for many years to try to help find them spectral resources in an area where two-thirds of the 800 MHz spectrum belongs to Canada and 100 percent of the 700 MHz spectrum is blocked by

Canada. Then as you go to the southern part of the State, New York City, you know the tri-state area there, has been completely market-saturated for as long as most people can remember.

So we are really looking forward to getting 700 MHz band out and available as soon as possible to meet some of these spectrum needs.

MR. WILHELM: Sean, as 700 MHz systems are implemented, are you going to plug the actual operating parameters into the program?

MR. O'HARA: That's not planned at this time.

CHAIRPERSON WALLMAN: I wanted to ask one question. You observed in passing that there was a disproportionate use of public service spectrum in rural areas. Was that counterintuitive when you began building the model, and do you have any observations about how and why that evolves?

MR. O'HARA: It wasn't counterintuitive to me after reading PSWAC. It's kind of what I expected. But in the past things were based strictly on population. Because of that, this tends

to represent the user demographics much better.

MR. McEWEN: Harlin McEwen, representing the International Association of Chiefs of Police.

I would just like to comment, I mean on a side note, that the national public safety organizations, the police chiefs, the fire chiefs, the sheriffs, APCO, and others are cooperatively working to try to get something done to clear this 700 spectrum in the major metro areas.

We understand your problem, but keep in mind that we need your help, too. I mean, you're in a place where you could be very helpful. You know, the more you say and the more you do, the more you help everybody else in this country trying to get that resolved.

So we have been in meeting after meeting with people trying to get that solved. All the work that we're doing, that we're here about today, is of no value until that spectrum is available.

MR. NASH: Glen Nash. I'm Chairman of the Technology Subcommittee.

Michael, if I might expand on the answer

to your question, I think we need to keep in mind that what Sean is proposing here is the initial population of the database. As the RPCs then take that and make their specific recommendations based upon the requests from individual agencies in their area, that database then gets updated based upon the allocations that the RPCs make, which then there's no need to go back and modify Sean's program because all his program is intended to do is do the initial population.

The RPCs, then, would keep the database up-to-date based upon the allocations they make, and as systems actually get installed, that then also gets put into the database through the RPC process, not through Sean's process.

MR. O'HARA: Michael, also to follow on that, it actually would be a lot easier to do this if I knew site parameters and those kinds of things. Generalizing this information is very difficult.

But one of the things I am probably going to do in the future as this 800 MHz NPRM goes, in my spare time as an academic exercise I may load

all of the NPSPAC frequencies nationally into a database, similar to the way I've done things for New York State, and repack, again as an academic exercise, the entire NPSPAC band just to show that, rather than moving things down 15 MHz, if that's the way it goes, that we can clear a couple megahertz of spectrum just by pulling all the slack out of the stuff that's out there right now, using site parameters though.

Yes, Steve?

MR. DEVINE: Steve Devine, State of Missouri. If you need any work, I can send some things to you, Sean.

(Laughter.)

In addition, to echo Glen's comments with regard to the database, it will show pool allotments; it will show issued licenses with the channels in that particular county area, as well as pending applications. So it will be real time and as the applications are being developed that will be represented when one goes to look for new information or for new channel allotments. So we

are hoping it to be real time and reflect that.

MR. O'HARA: This database is an incredible resource for the Regional Planning Committees and the coordinators. Going forward, it's a really wonderful thing.

CHAIRPERSON WALLMAN: Just to the Chief's point, Communications Daily is reporting today that there is a draft bill, offered by Tauzin and Dingell, suggesting, requiring a hard 2006, December 31st, 2006 give-back date for broadcasters to return the spectrum that we are so eager to deploy on. There's a hearing planned for next week. So it will be interesting to watch that and see what kind of lift the idea gets.

MR. McEWEN: We were provided one slot in that area to represent public safety. The President of APCO will be representing the police chiefs, fire chiefs, sheriffs, and public safety in general, because we only had one place. So we will be making some comments at that hearing.

CHAIRPERSON WALLMAN: Thank you very much, Mr. O'Hara. I think the Steering Committee

will want to depose your thesis committee, substitute for it, and immediately bless the merit of the work that you are doing. So thank you very much for all that you've done. We appreciate your willingness to come and make this presentation.

All right, I think now we are ready to hear from the subcommittees. First, we can hear from Dave Buchanan, who has graciously agreed to step in for John Powell, who is attending an STR conference and couldn't be with us today. Thank you, Dave.

MR. BUCHANAN: Thank you.

We acted on a number of items and discussed a sixth item that I forgot to bring up, but there's no action required on that.

No. 1, we discussed and we came to a consensus that we need a standard name for all of the interoperability channels, not just the 700 channels, but those also in 800 and below 512. However, we still are looking for more input to how that naming convention should be, considering that there are some interoperability channels in the

lower bands that have been around for the last 40 years, and there's a lot of local names and ways of doing things.

Also, we want the names to be easy for the users to remember and use. But the standard needs to be there. Otherwise, we run into -- and we had several examples -- of interoperability incidents where people didn't think they could communicate, and it was simply because they named the channels different names and didn't even know they had common frequencies in their units.

So that's one item, but we will have to defer any action as to the actual names until November. We're going to work real hard to try to have it done for you in November.

We are also recommending that the SIECs should manage all of the interoperability spectrum, not just the 700 MG. I understand some of the reservations the Steering Committee has on this recommendation. We are going to try to go back and work on digging out what the guidelines are for the SIECs and reviewing that, and adding to it as

necessary, so that they are representative -- we want to ensure that they represent the users in each of the states, that it's just not a single state technical committee someplace that doesn't understand what's going on in the real world.

But we do feel strongly that, with all the additional channels below 512 that the FCC has made available and put into the rules, along with all of the 700, the 800, that there have to be guidelines for the use of these channels. Otherwise, they're not going to be used effectively. Some will be used; some won't be used, things like that.

So that's basically our recommendation to the Steering Committee, that that should be a recommendation from the NCC to the FCC to have the SIECs manage all of the interoperability spectrum.

We are also recommending for all of the interoperability spectrum that, when it's other than day-to-day interoperability, just routine things, the larger incidents, then this has to be defined. We need to use an ICS-type system, incident command

system-type system to most effectively utilize the interoperability channels during an incident.

Fourth item, we're recommending a common CTCSS tone of 156.7 for analog interoperability channels be used or, if it's a digital, that a NAC NEC code of $61F be used for all the interoperability channels.

I believe Glen is going to report on some recommendations for a digital standard for those interoperability channels below 512, as they go from analog to digital. But, again, we don't want people coming on the scene with one having one tone and another having another and not being able to talk because of that. We think it should be standardized nationwide. That would also need to be recommended for an FCC rulemaking.

We've also come up with a standard plan for wideband data interoperability channels as far as how they would be used, how they would aggregate from 50 KHz up to 150 KHz. As was noted in John's presentation on the standards, it was decided on that we would standardize on 50 KHz with the 16 QAM

modulation.

However, that will be a minimum standard that's nationwide that we need to always go to, but we want to also have some flexibility that on a local level within a region or within a state that you will be able to aggregate the channels to up to 150 KHz, if needed, for specialized things.

We would envision it would still use probably the SAM modulation, but we're not asking for that to be within the rules, just a guideline possibly, if you are going to aggregate channels. But we do need how the channels are used to be standardized and put into the FCC rules.

What it would amount to is that there's four -- let me double-check -- yes, four groups of channels could aggregate, could be used either at 50 KHz, 100, or 150 KHz. There would be two blocks or a total of six channels that could only be used nationwide at 50 KHz.

Again, that's so that there's some common channels that, no matter in the future as the interoperability data, wideband data, are developed,

that they would be able to be used anyplace in the nation that a unit might go. Say a SAR team from California comes back east to help out and they have mobile data and it's at 50 KHz, under the standard they would be able to have a channel set aside for the use.

So we wanted to build in flexibility, but we also want to ensure that there's channels there that are common that everyone can operate on. Again, that needs to be an FCC action.

The last item that we were discussing, and that we are still working on, that we're trying to come up with an answer to -- and I think we're getting a little closer -- is we need an organization to take on the task of getting a domain name, an Internet domain, for all of the interoperability data channels, both the low-speed and the high-speed wideband channels and what's called a Class B Internet block of addresses to be used for interoperability.

We're working some with NPSTC. This at first glance is a rather large task, and we're

trying to work on ways to simplify it as we come up with that, and if we can get agreement with NPSTC to take it on, then I think that's another important step to the users actually being able to use data interoperability channels.

Everyone has to keep in mind that this has never been done. I mean nationwide there are no interoperability channels for mobile data. So it's a brand-new task force. There's a lot of uncharted waters here, and we're just going to have to work our way through it.

But it's very important that, if it's going to work, that we have a standard address and we have a standard domain name for all units in the United States.

That's all I have. Any questions?

MR. McEWEN: I just want to comment -- Harlin McEwen from the ICP -- on that issue alone. We had a brief discussion about this this morning.

That is that we're looking both at a technical solution, but we're also looking at a practical or operational solution. So I think those

are very important things that we've got to deal with.

Although this Committee was charged with dealing primarily with 700, 700 is going to have to interoperate with other channels -- we know that -- with other bands. So trying to solve that I think is an important issue.

MR. ROSS: Joe Ross again.

What's the use of the domain name? For what purpose would it be served?

MR. BUCHANAN: Well, the purpose would be to give a standard e-mail address for any interoperability use. We're envisioning ps.gov and then a standard way of naming all units. So that if you come across country, you can have a database and you would know how to access the unit out of area into your area.

It's very easy within an area to keep track of it, but when you consider incidents where you're bringing out-of-state units in, for instance, then you've got to have some kind of database and keep track of these names and a standard way of

naming them.

MR. ROSS: Okay, that makes sense. I don't know if you're familiar with CapWIN?

MR. BUCHANAN: A little bit, yes.

MR. ROSS: So I think they're going through some of the same steps.

MR. BUCHANAN: Yes.

MR. ROSS: There we have a lot of different public safety entities within the area. So CapWIN is also doing it, is also in the process of making efforts to deal with those kinds of issues.

MR. DEVINE: Steve Devine, State of Missouri.

David, one of the things I wanted to reemphasize was that one of the issues with the below-512, the recently-allocated interoperability channels, is that they are no longer assigned to a particular discipline. So they're actually designed so police can talk to fire, can talk to EMS.

Historically, the interoperability intersystem channels that we've had have been with

intradiscipline. So we're starting to cross new barriers here, and it's a new paradigm for us. So that's going to be some of the issues that we haven't had to deal with in the past.

I believe more and more of that is good. I believe it's good. It's just a little more difficult to put your arms around than some of the intradiscipline channels previously.

MR. BUCHANAN: Exactly, and that's one of the other reasons that we're taking more time to come up with the actual name, so that we get it right.

CHAIRPERSON WALLMAN: Any other questions for Mr. Buchanan?

(No response.)

Probably we should, if you can bear with us one minute, we should get a consensus of the Steering Committee on the three action items that Mr. Buchanan proposed.

Michael, would you be able to kind of restate them, so we've got a clear understanding of what we're saying "yes" to?

MR. WILHELM: Sure. The first recommendation is to be made to the FCC: that the SIECs manage all interoperability channels. We need Steering Committee consensus on that item before we forward it to the FCC.

CHAIRPERSON WALLMAN: Any discussion in the Steering Committee?

(No response.)

Can I take that as an expression of consensus? Okay?

MR. WILHELM: Let me move on to the next item. That is that, on the interoperability channels below 512, that if digital equipment is used, that it must conform to the Project 25 standard. If analog equipment is used, the CTCSS tone must be 156.7 Hz, and for the digital system the Network Access Code -- and I believe that's the acronym -- should be $61F. That would be the second recommendation to the FCC.

CHAIRPERSON WALLMAN: Any discussion?

MR. SPIEDEL: Yes, I think the only thing was that Dave did not mention the ANSI-102

series. I think we were waiting for that to come. Dave was just talking about the standardization of the access code being the 61F. That's the way I understood what Dave said.

MR. WILHELM: Yes, you're quite right; I jumped the gun on that. That is within the jurisdiction of the Technology Subcommittee.

(Laughter.)

I was about to be told that, by the way.

(Laughter.)

MR. NASH: No, but what I did want to make a comment on is that you said that the CTCSS tone must be 156.7. What our recommendation was is that other tones are permissible. However, that you must make 156.7 available, I think would be the terminology.

In the areas that oftentimes on a local or regional basis there may be a desire to use an alternative tone to minimize the area of coverage for a specific need. Nonetheless, we must be able to access it with a national tone.

MR. WILHELM: Thank you for that

clarification, Glen.

MR. BUCHANAN: That's correct, and our actual writeup to you will reflect that.

MR. WILHELM: I see no disagreement from the Steering Committee.

CHAIRPERSON WALLMAN: Okay.

MR. WILHELM: The third item is that we adopt the wideband aggregation plan contained in the document provided by the Interoperability Subcommittee. Those were the channel assignments that David Buchanan described to you: that we have certain groups that cannot be aggregated and other groups are aggregated, that they be aggregated according to a specific block of frequencies specified in this plan.

MR. SPIEDEL: Michael, I guess the question I have, I'm a little bit confused about the 50 KHz and limiting it to certain channels. Should we be looking at this something like we did with the secondary trunking, where we said they can use certain channels in modes other than the conventional CAI on the interoperability narrowband

channels?

Should this be a thing where, certain of these blocks, the RPCs once again can say, "Okay, if you want to do 50 KHz or 100 KHz or 150 KHz, you can use it, but if those channels are needed in the event of a national emergency, everybody goes back to 50 KHz operation on those channels."?

MR. BUCHANAN: I think what you're describing is what we intend on that.

MR. SPIEDEL: Okay.

MR. BUCHANAN: It's basically, yes, if you're going to aggregate them, you aggregate in these blocks, and it is simply at the RPC's discretion to allow it, and in the event that it is necessary, you go back to the common 50 KHz, the same as we've done on all the other bands or all the other interoperability voice.

MR. WILHELM: I'm unclear then whether your recommendation goes to the FCC to implement this as a rule or whether it goes to the Regional Planning Committees.

MR. BUCHANAN: Well, the FCC rule part

will just spell out which blocks can be aggregated, and it would also have to include -- and I think the confusion is that we haven't got the actual writeup to you yet, but the aggregation needs to be, which blocks were aggregated need to be in the rules, so that everybody plays off the same sheet of music.

Part of our rule is the same as what we did for the narrowband voice, which is say that if they are needed for the standard 50 KHz use and interoperability, then you would have to go back and use them that way. That would always take precedent over aggregating them.

That is a good analogy, though, to the secondary trunking that we came up with. It's the same idea here.

MR. SPIEDEL: So that's why I think that there would be a rulemaking -- or not rulemaking, but a rule would be required, because I think you do need to designate specifically, like we did in secondary trunking, specifically what channels can be secondarily trunked. If we're trying to implement the same kind of solution, I think it

would be appropriate to make sure it is designated in the rules.

MR. BUCHANAN: I guess part of the confusion is my fault. This is so different than what we are used to. I mean, we are not used to dealing with this kind of issue, and mobile data interoperability is so new, it's kind of hard to explain. But the analogy is there. It would be secondary aggregation in this case. But we've got to keep in mind that always the common denominator is the 50 KHz standard that we've already agreed on.

CHAIRPERSON WALLMAN: I think it might be a little more comfortable for the Steering Committee to table this and to take it up when there is an actual writing then.

MR. BUCHANAN: That may be good, too, and we're going to supply that in the next few days.

CHAIRPERSON WALLMAN: Okay.

MR. BUCHANAN: So you could even act on that in a conference call or something.

CHAIRPERSON WALLMAN: Okay, all right. All right, thank you very much, Mr. Buchanan.

Mr. Nash, for the Technology Subcommittee.

MR. NASH: Good morning. We had a good, and sometimes spirited, meeting yesterday. It was mentioned, "Let's get started."

We did not hear the presentation from TIA yesterday relative to the decision to recommend SAM as the interoperability standard. I think, in general, the feeling of the Technology Subcommittee is that whatever TIA recommended would probably be okay with us, and so I'll step out and suggest that the thought is okay on the part of the Technology Subcommittee, and I think it would be appropriate for the Steering Committee to, if you want to endorse that as the mode for TIA to move forward.

No. 1, I start out with that recommendation: that the Steering Committee endorse SAM as the direction for the modulation scheme on the wideband data channels.

Moving on, we also had a discussion about loading of the wideband data channels. This is new territory for public safety. We really don't

have a whole lot to base any sort of recommendation on.

I did throw out, if you will, a strawman yesterday that was based upon some assumptions about what the channel data rate in a 50-KHz-wide channel will be. I guessed at 125 kilobits per second. Some people might argue with that, you know, as to whether that's too high, too low, under what circumstances.

I then move on forward and say, how many bits per hour was that? That's about the only sure thing in my calculations, was that there are 3600 seconds in a hour. I think there is no disagreement on that point.

(Laughter.)

The next part of it was, you know, say there is an eight-hour shift. There is some disagreement about how long a shift is. The number that I had heard from Motorola is saying that the average user generates about 5 megabits of data per shift, and we don't know where that number came from at all.

But when you plug all of that together and you crank your calculator, out the bottom comes an answer of about 180 users per 50 KHz channel. It's strictly a stab in the dark.

So part of the issue here is not having had wideband data channels to have any sort of experience about what applications are, in fact, practical, how much they would be used, what they would be used for, it really is very difficult to come up with any sort of recommended loading standard because we don't know what the load is to begin with.

Nonetheless, the RPCs are faced with some very difficult tasks, you know, of users coming in requesting large amounts of channels that greatly exceed the availability of spectrum. So how do the RPCs make any sort of decision about who should get a channel and how much, and what are they going to use it for, and should they be required to share channels with their neighbors.

We really don't have any real-good answers there. I'm not sure that we will ever get

to any good answers until public safety as a community has some experience in dealing with these wideband channels.

So we will continue discussions on the loading issue, see if we can't come to some sort of consensus as to what a reasonable load is over the next couple of months.

As was mentioned, we had some discussions about expanding our standards recommendations out into the interoperability channels in the other frequency bands. The 800 band currently has five nationally-recommended interoperability channels, and then recently the Commission has recommended some interoperability channels on the channels below 412 or 512.

As was said earlier, there are a number of legacy users for interoperability purposes that are out there today using analog FM. Furthermore, most of the systems that are constructed out there are analog FM, and, therefore, we would recommend that analog FM be permitted on these new interoperability channels, fully recognizing that

the FCC did establish those channels as being 12.5 KHz channels, not 25 KHz channels. So appropriate modifications would need to be made to analog FM systems to do that.

Furthermore, that there be a standard national CTCSS tone of 156.7. However, that any rules be worded in such a way that the local SIECs could permit use of other CTCSS tones as need be, provided that they at least allow use of the 156.7.

We feel that that is very necessary because part of the reason for the national interoperability channels is to support roamers that might come into the area, and a roamer would need to know -- have at least one way of getting in, particularly if he knew nothing about what the local operations were.

Carried further on, though, if you were to implement digital operations on the interoperability channels, then those digital operations should conform with the ANSI-102 series standards, also known as Project 25, operating in the 12.4 KHz analog mode, exactly parallel to the

recommendation that has been made relative to the 700 MHz band.

MR. SPIEDEL: Conventional, right?

MR. NASH: That's conventional, that's right.

So, again, I would ask that the Steering Committee endorse that recommendation and forward it on to the Commission.

Finally, we had some discussions about the signal levels. We had been asked to consider whether or not there should be a national standard for the design of public safety radio systems, to establish a minimum signal level that systems should be designed for, and, furthermore, whether or not that signal level should be increased to 50 dBu or perhaps 52 dBu, as opposed to the 40 dBu, which is the common practice today, although that is not a specific requirement of the rules.

In our discussions, I think it was very clear that there was reluctance to establish a minimum standard, if you will, for the design of systems, that there are many applications in which a

particular user may desire to, or have a need to, design to a lesser standard.

Nonetheless, there needs to be some sort of number that gets plugged into the calculations in performing the TSB-88 calculations. There needs to be some sort of number that establishes a baseline that sort of says, you know, public safety, if you do this part, then others should recognize that and provide you protection based on that.

We came up with a statement that I will forward to the Steering Committee asking that they endorse. This becomes more of a statement coming out of the NCC, not something that I think can really be crafted into the rules, in that it contains a lot of very soft wording. The statement is as follows:

"Systems should be designed to provide 40 dBu within the jurisdictional area and to minimize signal levels beyond the jurisdictional area plus three miles through the use of antenna patterns, down-tilt, transmitter power," et cetera.

"Regional RPCs should follow TSB-88 for

making co- and adjacent channel assignments. Users may design systems for lesser signal levels, but may not be protected from interference. Users are encouraged to design their systems for 50 dBu or greater to protect themselves from out-of-band interference and to provide better in-building coverage," et cetera.

"In doing so, however, users should not increase the signal level outside of their jurisdictional area plus three miles."

And I would suggest, perhaps to clarify, we might want to define the jurisdictional area plus three miles as perhaps something like an operational area, just to make it a little easier to read that, as to what jurisdictional plus three means.

MR. LELAND: I would also suggest we spell out Telecommunications Industry Association. Instead of just TSB-88, spell out Telecommunications Industry Association Technical Services Bulletin 88, for those that read this for the first time, you know, as a legacy five years from now, or whatever.

MR. NASH: Okay, that can be done. Any

other comments?

MR. DEVINE: Steve Devine, State of Missouri.

Just to make a note, 156.7 wasn't just an arbitrary number. In case people aren't familiar, that's been an established CTCSS tone at 800, and we feel that there is a consistency there. So we didn't just -- the NAC or the access code corresponds to that -- so we didn't just make that up. That actually had a history and it's been successful. So we're trying to be consistent through the other bands.

MR. NASH: Yes, we did pick a number out of the air, but we had a reason for doing it.

(Laughter.)

MR. SCHLIEMAN: Robert Schlieman, New York State.

I would like to note that, with respect to the increase in signal level, we have done some computer analysis of what would be required to go from 40 to 50 in three different counties representing different coverage, topography areas,

of the State of New York. It more than doubles the number of sites that are required to get -- and when I say, "more than doubles," because of time constraints, we cut it off at that point when we hit 2-to-1, or just beyond 2-to-1.

It takes more than 2-to-1 siting to accommodate 50 dBu within a county. Frankly, that's not an acceptable change as a general rule.

So in our discussions yesterday we did refer to this increase to 50 dBu to those areas where there was a high noise level, as in urban areas. It certainly wouldn't be applicable in rural areas, where there is no out-of-band noise emissions.

MR. NASH: Yes, a comment there is we might recall historically the NCC has expressed concerns about the permitted out-of-band emissions from the CMRS portion of the 700 MHz band. We have over the past couple of years expressed concerns to the Commission about that, and TIA has expressed concerns. Nonetheless, the Commission, at least to date, they weren't willing to modify those out-of-

band emissions that will be permitted from the CMRS community.

Therefore, we have been asked to consider increasing the design level of public safety systems in order to survive, if you will, in the higher noise environment, potentially to be come from the CMRS portion of this band.

As Bob has indicated, they've looked at it, and it results in a significant increase in the design cost, the public safety systems. TIA has also done some initial analysis, and they're coming up with very similar-type results, you know, that it has a significant impact in the design of the public safety systems. Therefore, we're not willing to recommend the systems in fact be designed for that.

I guess I would argue with Bob a little bit that certainly 50 dBu will probably be needed in the urban areas, where you would expect a higher noise floor. I'm not sure that I could say that there will not be a higher noise floor in the rural areas, because, again, our concern is noise coming out of the CMRS systems. I would not expect them to

be restricted to only the urban areas, that in fact they will be deployed in some of the rural areas, if in no other means than as we currently see as ribbon systems along the major highways.

So I don't think the rural areas are necessarily protected from the higher noise floor that might result from the CMRS system.

MR. GILLORY: Ron Gillory, Houston Police Department.

On the issue of the 40 dBu contour versus the 50 dBu contour, to maintain the status quo of our present system, a 50 dBu contour is approximately $183 million of expense on the part of the City. I can't imagine what we're looking at to redesign on a 50 dBu contour. Unless we can come up with a very deep pocket that we can tap, financially, you're putting these type of systems out of the reach of the cities.

MR. NASH: And that's exactly the concern that we have expressed, and, therefore, with the recommendation that we design for a 40, but suggest that you consider designing for a 50. But

you're going to have to make a decision there, you know, as to what you actually design for. If you choose to design for 30, if you will, buyer beware.

MR. GILLORY: Thank you.

MR. BUCHANAN: David Buchanan, County of San Bernardino, and also representing Region 5, Southern California.

I support the wording that Glen and us came up with in the Subcommittee meeting yesterday, but I want to emphasize also that it is a real problem in the rural areas. I have some very rural areas in my County, as do my neighboring counties. Frankly, for us in the West, even if you can come up with the money to double the sites, you can't come up with the sites themselves because of all the environmental restrictions.

Most of the land is BLM land or wilderness areas or things like that. Yet, you still have to provide some coverage there, and even coverage along the interstate highways, it's very hard to get enough sites there because each side of the interstate in some cases is a wilderness area or

environmentally-protected area.

So it is going to be an increasing problem. Frankly, from the public safety standpoint, I think Bob yesterday, Bob Schlieman, made an observation that we looked at polluted waters and we said, "Gee, we can't keep polluting the waters. We've got to clean them up." And I think the same thing is happening with spectrum.

I think I would still urge the FCC to reconsider that our spectrum can't be polluted with a lot of out-of-band noise. It's just killing the rest of us, and we won't be able to put systems together. That's going to be a shame.

MR. NASH: And Dave makes a good point. It's difficult for environmental reasons to develop sites out in some of the rural parts of the country. It's difficult to develop new sites in the urban areas for many similar environmental reasons. People don't want radio sites in their back yard.

So adding new sites is an expensive proposition, and it's a proposition that gets into some real public policy issues just about having the

development of radio sites. So it may sound easy on the surface, but in reality it is not an easy thing to do.

Wayne?

MR. LELAND: Yes, Wayne Leland, representing Motorola and TIA.

I just want to reemphasize what Dave said. The real cause of the issue we're dealing with here is interference, real in 800 and potential in 700, from CMRS-type systems. TIA still stands by the paper it did which says that, unless there is some limitation, there's going to be interference.

Barring that there is no limitation on the CMRS, which the FCC has reaffirmed once again, that they're not going to put that on them, that's what causing this look at 50 dBu and, therefore, causing the expense.

So, let me tell you, the questions seem to be directed, saying, "Hey, you guys have got to come up with something else to not force us to design 50 dBu systems." In our view, the only way of doing that is somehow to limit the potential

interference from CMRS carriers. Perhaps if the FCC is unwilling to do that, you know, you've got to write your Congressman or something, but it's largely physics is what we're dealing with, at least from a TIA view.

MR. NASH: You're right, what we're looking at is moving away from FDM-type approaches toward TDM and CDM. Those are by nature wideband transmitter signals, and, therefore, their spurts extend much further out than is typical for an FDM-type system. That's just increasing the noise floor on channels outside of the band in which they're authorized to operate in, and we're being asked to pay the penalty on it.

CHAIRPERSON WALLMAN: All right, maybe we should ask Michael to recap the specific things that Steering Committee action is requested on.

MR. WILHELM: The first item is that the Steering Committee endorse scalable, adaptive modulation or scalable advanced modulation -- I'm not sure which is the correct --

MR. NASH: Adaptive.

MR. WILHELM: Adaptive? And they should forward that endorsement to the Commission and advise the Commission that the rest of the standard is in progress.

CHAIRPERSON WALLMAN: Any discussion or questions on that?

(No response.)

Okay, we'll take that as an expression of consensus of the Steering Committee.

Next one?

MR. WILHELM: The second item is a statement by the NCC, not necessarily to the Commission, and I'm going to paraphrase here, but the exact statement will be as worded by Glen during his presentation.

Paraphrasing, the design criterion for coverage should be 40 dBu within the jurisdiction, not to extend beyond three miles from the borders of the jurisdiction. Interference should be minimized by such measures as down-tilted antennas, directional antennas, reduction in power, or other means. System designers may use less than 40 dBu,

but they do so at their peril because of interference considerations.

In areas in which interference is likely to be a problem from CMRS, it's a recommendation that the systems be designed for 50 dBu coverage. Again, interference should be contained by the measures I mentioned earlier.

In calculating signal and interference contours, Regional Planning Committees should use Telecommunications Industry Association Technical Standard Bulletin 88.

That's a paraphrase. We'll use the exact language that Glen gave you a moment ago.

CHAIRPERSON WALLMAN: Okay, any questions or discussion about that?

(No response.)

All right, I think we'll take that as an expression of consensus that the Steering Committee go forward with that.

MR. WILHELM: The last item is the recommendation that ANSI-102, Project 25, be used for all digital systems operating on any

interoperability channels. That recommendation is to go to the Commission.

CHAIRPERSON WALLMAN: Okay, and we're within our charter on that. We've got authority to do below 512, for example.

Any discussion?

(No response.)

Okay. All right, so I think we're ready to move forward with that one, too. All right.

Thank you very much, Mr. Nash.

And I think we're ready for Ted Dempsey from Implementation.

MR. DEMPSEY: Thank you, Kathy. Good morning.

Again, we pretty much have been done with the bulk of our work for quite some time. What we've been doing in our Subcommittee is keeping abreast of, obviously, the MO&Os and any other work that the Technical and Interoperability Subcommittees have been doing.

What we did, we recently updated our Regional Plan Guidelines to align them with the

fourth MO&O. That will be out and we will wrap that up by the end of this month, forward it on to NPSTC to be posted on the website. We just need to make sure that everything that we have done is lined up with the latest FCC MO&O.

An update on the CAPRAD database. Tom Tolman's group gave us information that they've held 10 training sessions and are continuing to hold two more, I think, Dave? They will be scheduled every month. The RPCs are taking advantage of them. All of them have been full. So that's going very well.

We will continue to monitor the 50 dBu issue as well as the channel loading issues. When we come to consensus on those issues, we'll incorporate them into our Regional Planning Guidelines.

And that's it.

CHAIRPERSON WALLMAN: Any questions for Ted?

(No response.)

We have some time for general comments from the Steering Committee or from the floor. Any

takers?

(No response.)

Bob, we're all disappointed that you don't bring your computer to the microphone anymore.

(Laughter.)

MR. SCHLIEMAN: The last time I did that, I pushed the power off button just as I got to the microphone, and you all know how long it takes for Windows to reboot, right?

(Laughter.)

Yesterday in the Implementation Subcommittee meeting Steve Devine and I presented two proposals for state license channel sharing along the state borders. We will be putting that on the NPSTC website for everybody to look at. They are intended as suggestions or guidelines for the states to consider because there is a requirement in the report and order, the third report and order I think it is, on 96-86, that the states share mutually along the border.

So we've reached developed plans, one, based on fixed-distance cells and the other based on

coverage blocks that give the state the flexibility that they need along mountainous and hilly terrain, where things aren't quite as uniform as they are on flatland.

I don't think you need to be bored with another rendition of that. Most everybody has seen it already.

CHAIRPERSON WALLMAN: Okay. Chief?

MR. McEWEN: Harlin McEwen, International Association of Chiefs of Police.

I would just like to make a general comment, I think on behalf of everybody on the Steering Committee, on all of the work over the last several years and the people in this room. There are many, many people from all parts of the country and all different disciplines, people with engineering background and people with practical background, that have contributed to this process.

Although it isn't quite completed, I think we need to make sure you understand how much we appreciate all that work. If we didn't have that expertise coming to these subcommittee meetings and

spending hours and hours and hours on behalf of the national public safety community, we wouldn't have accomplished what we have.

So I want to thank you, and I think on behalf of everybody up here.

CHAIRPERSON WALLMAN: Chief, you speak for all of us. The cooperation has really been remarkable. That acknowledgment was very well said. Thank you.

Anyone else? Mr. Ross?

MR. ROSS: I guess I'd like to talk with a lot of you on an individual basis, but some of the things that I wanted to convey to you is that: One, we've looked at Project 25 for the District of Columbia. Actually, Project 25 would impact negatively our interoperability regionally.

Regionally, almost all municipalities are on a Motorola 3600 baud control channel system, and if we were to go to a Project 25 system, we would negatively impact interoperability with the municipalities that we need our interoperability with most. So that's just an informational piece of

data.

On the wideband data front, one of my concerns is antenna proliferation on rooftops. So we have a 16-channel trunk system. We are building a 13-channel trunk system. We are on the order of 12 different antennas on rooftops.

The more narrowband channels that we have to put up and combine them, the more coverage we lose. I'm interested in wider band data than what's being proposed right now, wider than 150 KHz.

From an interoperability perspective, I feel that we don't need much more voice capacity for interoperability because of the regional interoperability with the Motorola 3600 baud control channel.

From a data interoperability, I don't know how much data interoperability we really need. What we really need is high-speed dial-up for our own uses first.

We have the WMATA Protect Project, where we're trying to transmit video from the subway systems down into the tunnels. There's CapWIN that

needs high bandwidth in order to transmit photos and other things like that. We need as much high-speed data as we can get regionally as quickly as possible.

I think that there are more spectrally-efficient technologies out there than what's being proposed with SAM. I don't know what the process is for me to get those on the table, but I would like to begin getting those other technologies on your agenda.

MR. McEWEN: Were you at the discussions yesterday?

MR. ROSS: No, I'm sorry, I couldn't make it.

MR. McEWEN: I think what you say is important. The problem is that you've got to get involved in the process to the point where you're really discussing with the people who have been dealing with these issues for several years your specific concerns, so they can either rebut them or take them into account or put them into the process, because, otherwise, I mean, we hope we're not making

these decisions in a vacuum.

In other words, the decision today to adopt SAM was based upon the best available information that I know, and, I mean, the recommendation of the industry, not Motorola or not NACOM or not Johnson. There's a big process here, and the problem is, if you know something we don't know, we need to know that quick.

MR. ROSS: Well, I know that I'm late to the process, and I apologize for the District not being involved earlier than we're getting involved today.

From an interoperability perspective, I know that there's a lot of work that's been done on SAM, on Project 25. I'm not trying to derail that process. I guess what I'm trying to interject here is that we make smart spectrum allocations for interoperability, that we don't excessively apply spectrum to interoperability when I don't know how much interoperability spectrum we need.

We need spectrum for day-to-day operations primarily before we can even address

interoperability. On September 11th at the Pentagon there were eight additional talk groups that were introduced for that event. The Arlington County 16-channel trunk radio system was able to support it. I think the District, the regional area showed that it had the kind of interoperability due to the Motorola 3600 baud commonality within the region.

So I don't know if there could be flexibility within different Regional Planning Committees or more flexibility to assign interoperability channels or general use channels, I guess is what I'm looking for.

CHAIRPERSON WALLMAN: I guess what I would suggest is this: I think on the Project 25 ANSI-102 suite of decisions, and so forth, that things are pretty far down the pike. The FCC has adopted rules that are now being implemented by the RPCs based on work that has gone on for the last few years here.

With respect to SAM, though, could I suggest that you speak with Glen Nash? I don't want to undo the process that we just did, but I want to

make sure that Glen is fully aware of your concerns. Then, Glen, can you communicate with me and Michael if that gives you pause about the recommendation? Okay?

So the remarks that you make, it's a very important subject matter. The decisions that we've made have tried to reflect a series of tradeoffs that people have to make. I think it's generally accepted by everyone outside the specific charge of our charter that everybody needs more spectrum for day-to-day use. There are a number of people, PSWIN and others, who are working on that project.

Our charge has been with respect to the slices that were assigned to our jurisdiction, if you will, to figure out how to implement interoperability. So I think that there are other venues, in addition to this one, to work on the larger and more fundamental problem that you have to solve.

And everybody you need to talk to is probably in this room or probably knows the right

person you need to talk to.

MR. ROSS: And that's why I decided to speak now. I would like to one-on-one talk with you more about our needs and the kinds of things that we see.

CHAIRPERSON WALLMAN: Okay, good.

MR. ROSS: Thank you.

MR. DEMPSEY: Just to answer one of your questions about interoperability channels and the availability of channels, I think one of the charters of the Implementation Subcommittee was to make the plans very flexible. We made those recommendations to the Steering Committee. They were passed on to the FCC.

The interpretation sometimes is that there are a lot of channels allocated to interoperability. There are also a lot of channels in the general pool, and I think there will be for the majority of the areas more than enough.

But there's nothing to stop an RPC from going back to the Commission to say, "Listen, we've got a lot of interoperability channels that are not

being used. We might be able to reallocate some of those channels into our general use pool."

There's nothing to stop that process from happening. I just wanted to let Joe know that.

The idea here, especially in what we produced in the Guidelines, was to allow the RPCs to be as flexible as possible. On the nationwide interoperability channels, obviously, those can't be changed, but anything else that doesn't come -- and it's possible even to look at other solutions.

We just briefly discussed yesterday that the 25 MHz that we asked for under the PSWAC process wasn't supposed to include the wideband data channels. That was strictly for voice and narrowband data.

There was an additional 75 MHz that we requested, and that was supposed to satisfy a lot of other needs, especially in wideband data.

So as we go along we identify more spectrum that can be used for wideband data or other uses that might free up some additional frequencies or channels for the metropolitan areas. But we just

want you to understand that the process that we put together here is very flexible, much more flexible, I think, than has ever been implemented before.

MR. SCHLIEMAN: Robert Schlieman.

I want to clarify one thing regarding the trunking channel use. The trunking channels are not required to be used with ANSI-102. They may be used with the older 3600 Hz or TPS control channel trunking system, or other brands of trunking systems, a very good point.

The standards that are specified in the rules apply to conventional channel use. So in terms of the issue of trunking on interoperability channels, you don't have any restrictions there.

I wanted to express one other point. So I guess it's a big break and a new message comes out. I am disappointed that the federal government cannot adequately plan meetings. It just appalls me that there is a very important meeting on interoperability going on as we speak and it's in direct conflict with the Public Safety and National Coordination Committee. I think somebody needs to

get a message in the federal government somewhere that these high-level meetings need to be coordinated.

CHAIRPERSON WALLMAN: Which meeting is it that we're in conflict with?

MR. SCHLIEMAN: Project SAFECOM.

CHAIRPERSON WALLMAN: Project SAFECOM?

MR. SCHLIEMAN: Yes.

CHAIRPERSON WALLMAN: Okay.

MR. SCHLIEMAN: And that's why we have such a low attendance, because a lot of people left to go to that meeting instead of coming here.

CHAIRPERSON WALLMAN: Okay. Well, I always like to blame the federal government for things, but I don't think we can blame them for this one because we are in control of how we schedule these meetings.

MR. SCHLIEMAN: Well, we were scheduled first.

CHAIRPERSON WALLMAN: Sorry?

MR. SCHLIEMAN: We were scheduled first, "we," NCC.

CHAIRPERSON WALLMAN: Okay.

MR. SCHLIEMAN: So, obviously, somebody in another building needs to be paying attention to public safety interoperability in a larger sense than just their little niche in the world.

CHAIRPERSON WALLMAN: Okay. What we really try to do when we schedule the meetings is have people kind of flip through their calendars so that we can avoid major conflicts that we know about. Conversely, if people become aware of things that present attendance conflicts after the meeting has been scheduled, please let me and Michael know. It's often difficult to get this room once you've pinned it down for some other date, but we can try.

MR. SCHLIEMAN: I was not intending to reflect upon NCC's scheduling. It was really intended --

CHAIRPERSON WALLMAN: Oh, I understand.

MR. SCHLIEMAN: -- on FEMA's part in this thing.

CHAIRPERSON WALLMAN: I understand, but you can only control what you can control. If we

can be more flexible than they are, then we'll try.

MR. O'HARA: Sean O'Hara, Syracuse Research Corporation.

As far as the gentleman from D.C., I just wanted to throw a few points out. First off, I definitely recommend that you talk to a lot of people in this room one-on-one, and I think a lot of your concerns will be handled right away.

First off, I would make the point that, as you go wider band, coverage doesn't get better; it gets worse. It gets a lot worse. The only reason it gets a little worse as you go to narrower band is your amplifier power goes down. But as you go to wideband, your noise aperture opens up considerably.

Secondly, being involved in the SAM process for quite a long time, I can say without hesitation that modulation that was finally chosen for those wideband channels is absolutely the best modulation that there was to meet public safety's requirements within this band. I don't think that you're going to find a more spectrally-efficient

modulation that has the same coverage and throughput features as what was chosen to work within that band.

Third off, it seems like a lot of the functionality and feature set that you're looking for were probably well-covered if you followed the 4.9 GHz proceedings that are going on right now, because that's what it sounds like you're really looking for as far as the very high data rate and the real-time-type video stuff.

So I encourage you to look under 0032, Proceeding 0032, under FCC, and continue to follow that 4.9 GHz proceeding, where 50 MHz of spectrum for public safety is being put aside at 4.9 GHz, and that's going to support very high data rate applications, such as the 802-11(a)-type things as well as the hyper-line-type high data rate applications.

CHAIRPERSON WALLMAN: Do you have another thought, Mr. Ross? Go ahead.

MR. ROSS: Thanks for the comments. Yes, we have looked extensively at 4.9, and I think,

as you probably know, 4.9 propagation is line of sight. So we wouldn't be able to get inside buildings. We wouldn't be able to -- within the District, we would have to have hundreds of sites in order to provide coverage. So we have looked at that. We don't think that that's viable.

It's viable maybe on a particular incident, if we wanted to deploy kind of a base station on a light truck or something like that, but we don't feel that for wide-area coverage it's an acceptable alternative.

MR. McEWEN: Again, I appreciate your comments. But, you know, you need to get involved in the discussions. I mean, we're all working together to try to deal with these issues. It doesn't sound like you know what's going on with the rest of us. So you need to really do that.

I mean, I would challenge your depiction of how 4.9 works and how we anticipate possibly using it. But, I mean, I'm not an engineer, but I would challenge the way you described it.

We certainly look at a lot of

applications as going to be very useful to us, and certainly talking inside of buildings. So I'm not quite sure how to -- I don't think we want to -- it's not appropriate to get into this in great detail today, but --

CHAIRPERSON WALLMAN: Well, maybe we should leave this to the one-on-one process that you alluded to at the beginning of your remarks, Mr. Ross. I think you'll find people here very interested in knowing whether what we're doing creates specific problems for you and whether the specific concerns of the District, which may not be unique -- there may be others who share those concerns -- whether they need to be embraced or whether they counsel some changes in what we're doing.

So thank you for coming to the meeting, and we'll look forward to working with you in the process that way. Okay?

I think that concludes our business. Any last words? I'm trying to close this meeting's business, and then we are going to talk about next

meeting. Okay, everybody's okay with what we've done so far? Okay.

So we coming near the end of the federal government's fiscal year, which means that Congress needs to settle on a new budget with the Administration by the end of October. That puts a tiny bit of doubt at least over the place of the next meeting.

The idea was it was going to be in New York City, hosted by the fire department in Brooklyn, on November 21st and 22nd. So the address of the headquarters, directions, and local hotels will be posted on the NCC website.

The only cloud is that, if there is no money to get the FCC personnel who are essential to this process up to New York, we might need to relocate the meeting to Washington. My personal opinion is that there's only a small chance that will happen, that there would probably be a Continuing Resolution or maybe a final budget by that late in November, and all will be well.

The meeting after that will be in

February, and we'll hold that in Washington, D.C. The meeting room is available on February 6th and 7th and 20th and 21st. We need to decide between those two dates.

Anybody see any clouds on either of those? Sixth and 7th are not good for some?

Bob?

MR. GURSS: The APCO Western Regional begins the following Monday in Las Vegas.

CHAIRPERSON WALLMAN: Near the 6th and 7th or --

MR. GURSS: Yes, the 6th and 7th --

MR. WILHELM: Bob, excuse me. Would you step to the microphone? We're still transcribing this.

MR. GURSS: Bob Gurss.

Yes, I was just commenting that, relative to a meeting on February 6th and 7th, the APCO Western Regional meeting is being held in Las Vegas on the beginning of the week of the 10th, which is the following Monday, and there's some things going on over the weekend there as well.

It's not a pure conflict. I just note it for people's calendars.

CHAIRPERSON WALLMAN: Right.

MR. GURSS: It might impact the ability to travel at that time.

CHAIRPERSON WALLMAN: Okay, so the 6th and 7th sounds like it's not the best of those two choices. The 20th and 21st, anybody see any conflicts or difficulties?

MR. McEWEN: That would be in Washington?

CHAIRPERSON WALLMAN: That would be in Washington. The 20th and 21st.

MR. McEWEN: To go back to the November date, what I would recommend is that, because there will be a number of people, not everybody here, but there are some people here that will need to be in New York City on the 22nd, in the event that the FCC isn't able to support that, that we look at an alternative rather than to try to squeeze it back here in D.C. because it would be very difficult. There's probably, I don't know, probably a dozen

people or so that would be affected that are active in the NCC.

The reason for this is that the Radio Club of America Annual Symposium and Dinner is on Friday in New York City, and that's why we proposed that the meeting be held there, so that a lot of the people could be there.

MR. WILHELM: Why don't we do this, Chief: Because, as Kathy mentioned, it is unlikely that we're going to be restricted on travel, if we find out that we are, if there's some reason that we can't go, then I will circulate dates on the listserver to the Steering Committee and the general membership. You can pick them at that time.

MR. McEWEN: That's good.

CHAIRPERSON WALLMAN: Okay, we're adjourned. Thank you very much.

(Whereupon, the foregoing matter went off the record at 11:25 a.m.)